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A HISTORY OF THE HOME

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THE EVOLVING HOUSE

A History of the Home

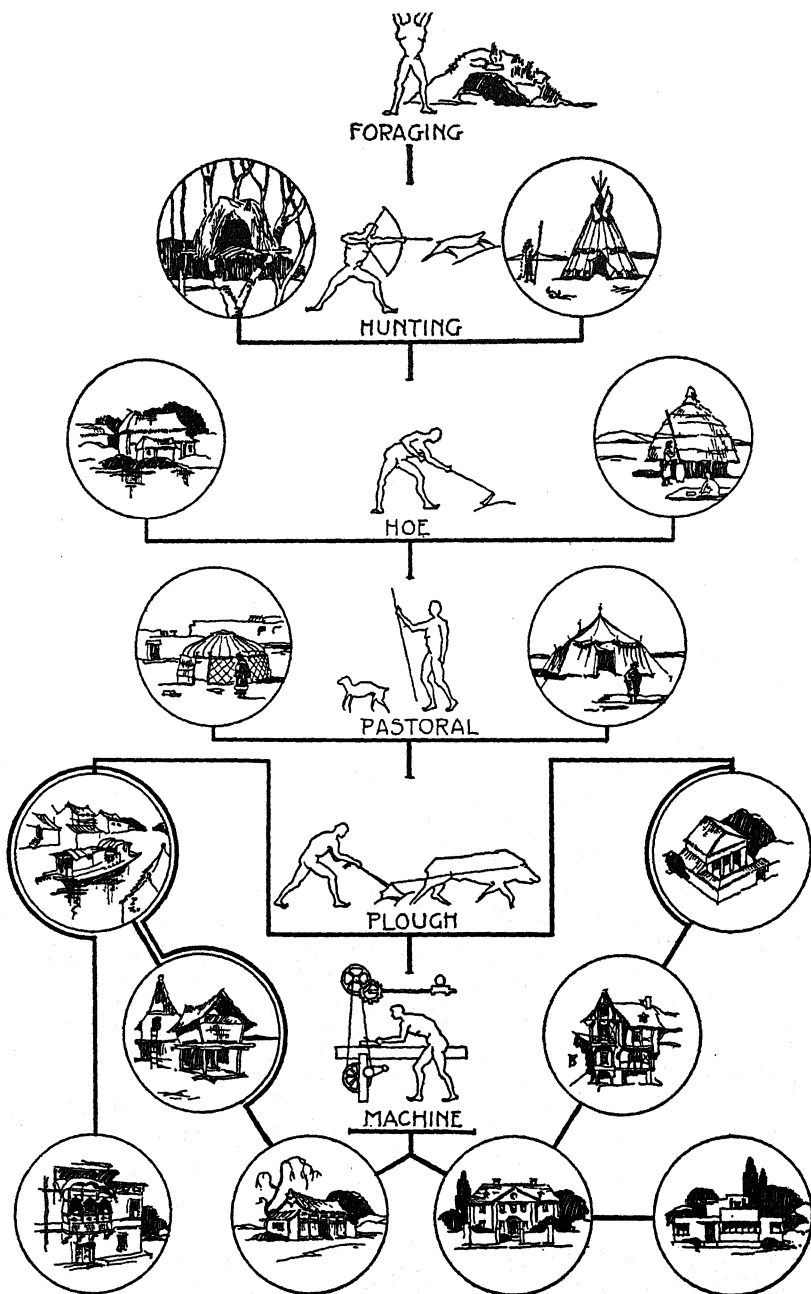


FIG. 1. THE DEVELOPMENT OF MAN'S CULTURE AND HIS HOUSE

The Evolving House

VOLUME I

A HISTORY OF THE HOME

BY

ALBERT FARWELL BEMIS

AND

JOHN BURCHARD, 2ND



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Second Printing

DEDICATED
TO THE
BETTERMENT OF THE HOME
THE CRADLE OF
THE BODY
THE MIND
THE SPIRIT

Foreword To All Volumes

THE general purpose of this three-part work is to deal with one of the fundamental features of human existence, housing or shelter. The subject offers a rich field for investigation, and the economic and social questions involved press urgently, in one form or another, upon society and upon the individual.

For more years than I like to contemplate it has seemed to me that the means of providing homes in modern America and elsewhere have been strangely out of date. The provision of food and clothing has been organized, increased, and facilitated to an extraordinary degree, and the same is true of the more complex needs of heat, light, transportation, luxuries, recreation, information. Why is the house which one builds for his family to live in for a generation, why is the house almost outside the influence of modern mass production methods? Should it be brought within their scope? If so, how? Such questions have been surging within me now for at least eight or ten years and these volumes contain my effort to answer them.

The method of attack necessitated first, in Volume I, a review of the evolution of the home and the social and economic forces which have influenced its development; then in Volume II an analysis of current housing conditions and trends and comparisons with the methods of other industries. Thus we should be able to find out what is the matter with housing and wherein it lags behind in the march of civilization. Finally, a solution of such problems is offered in the third volume in the form of a rationalization of the housing industry, thus harmonizing the

means by which our homes are provided with those mostly used in supplying the other major needs.

This rather large task, I am frank to say, I have approached with the distinct preconceived idea that the chief factor of the modern housing problem is physical structure. A new conception of the structure of our modern houses is needed, better adapted not only to the social conditions of our day but also to modern means of production: factories, machinery, technology, and research. Other industries have made use of such forces to a far greater extent than the building industry has done. The peculiar and complex nature of the building industry has thus far thwarted basic improvement in methods of house construction; but rationalization of it with respect to the other industries is imminent in all countries where, in varying degrees, mass production prevails.

Mass productive methods have come to stay, because they are simply the further development of the division of labor. It seems to be a law of life that function or labor is divided and subdivided, specialized and further specialized, infinitely and forever. Further extensions of mass production into both old and new fields may be confidently predicted. A study of housing as one of the chief factors in the "cost of living" in comparison with all other factors quite clearly indicates its backwardness compared with those other things which our present-day life demands. To bring it into harmony with the others is primarily an engineering problem which has gradually developed in character and importance during the last century and particularly in the last decade. It has not been adequately dealt with, probably because of its very complex and diverse character; it is easily seen in its generalities but hard to grasp in its details.

The solution is obviously through rationalization because the present methods of house production are old and out of harmony with methods used in other industries. The factors involved are by no means wholly structural or industrial; but social custom, living standards, public welfare, property, finance, esthetics, and still other factors must be balanced.

But balance among these factors can not be established until the housing structure, which is the basis of the whole problem, has been rationalized. The existing house structure was mostly developed before the industrial age, and grew out of the materials and methods and social standards of earlier centuries. The structure is physically sound but not well adapted to recent technical advances in materials and applied mechanics. Its elements are not well suited to manufacture by mass production or to ready field erection. It is not adapted to large-scale credit financing at low cost. Furthermore, it is very ill-fitted to include the accessories which, in these days, make the home. We are clearly putting new wine into old bottles when we implant modern heating, lighting, and plumbing into the house structure and architecture of two centuries ago. Finally, from the esthetic viewpoint it does not adequately express the spirit of the present era or utilize the wealth of adornment available through new materials, colors, and textures.

The whole world today is experiencing an evolutionary maladjustment far more significant than any unbalance between industries. Productive means have far outstripped control means and distributive means. Potential production, including transport, is sufficient to supply the necessities of life in abundant quantity to every man, woman, and child throughout the world. But our economic and political control methods are out of date and full of flaws. Millions are pinched and even starving in the midst of plenty. But the time is nearly here, and the forces are working toward it, when improved technology of control and distribution will tend to harmonize and balance with our technology of production. The great communistic experiment of the Soviets, the autocracy of Mussolini, the spiritual democracy of Gandhi, the floundering of all entrenched political and economic forces, including those of the United States, the philosophy and suggestions of the scientists, including "Technocracy," are all valuable contributions to this end. Rationalization between world production and distribution through which we shall make better use of our recent great

advances in productive technique for the general public good is clearly on the horizon. The present depression is drawing it towards us. But its approach will not stop the continued play of evolutionary forces in the field of production in general and housing in particular. In fact, improved technique of control between methods of production and distribution can hardly occur until the existing maladjustment between the building industry and our other great industries has been annulled.

It is a very far cry from the time when primitive man first used the protecting shelter of a tree or a cave down to present-day complex life and the home which it demands. Yet during this period of a half million or million years man and his home have been evolving under exactly the same natural forces as exist today, and we can draw a picture of the evolution of his home and some of the influences which have brought it to the present point. We can note the interplay through the ages of man's physical, mental, and spiritual urges. The interplay of these forces has tended always, though in waves, toward further and further specialization in supplying man's wants and cravings. Increasing technique has meant increased knowledge, more knowledge has furthered man's higher aims, and so in continuous subdivision of man's work the human race has progressed. The home, one of man's primary needs, has helped to conserve and pass down to subsequent generations and ages his mental accomplishments; and within the home man's vague super-human sense, the spirit, has evolved, ever urging onward and upward. No inquiry could be more interesting, more illuminating, more profound or more far reaching, more significant or more pertinent to present needs, than a study of the houses of mankind.

ALBERT FARWELL BEMIS

Preface to Volume I

STRANGELY enough the evolution of the home is a subject which seems to have received little attention from historians, notwithstanding the important place of shelter as one of the primary needs and factors in man's development. There is, naturally, a vast amount of material on it, but apparently it has not been coordinated. The story of home evolution, chiefly the work of my associate, John Burchard, 2nd, is herewith set forth as the first volume of this series of three studies on housing. We believe it is a pioneer effort in this field¹ and we hope it may be helpful in clarifying ideas on present-day housing problems.

The history of shelter in its influence on man's evolution is like a far-flung view over wooded hills and cultivated valleys, rocky peaks and mountain streams and lakes; in one direction, far off, the ocean; in another, ridge on ridge of verdure-covered hills; in still another, barren wastes of rocks and sand. In the foreground one may see and feel in the smallest details the particles of which the whole vast landscape is composed, and realize the vegetable and animal life sheltered throughout the enormous expanse.

The aim of this book is to paint a picture of such a landscape, of the verdure, the rocks, the ocean at a distance, the trees, the grass, the infinite detail of the foreground, so that we can understand something of the life and growth on the far-away hills, in the valleys, and on the barren wastes. We know

¹ A single exception, "*L'habitation humaine*," by Garnier and Ammann, is discussed in the Bibliography. (J. B.)

how geology explains the origin and development of mountains, valleys, and streams, of flora and fauna. But in a picture explanations give place to representation. Color and form are swiftly indicated, details are omitted, and arrangement is arbitrary. A scientific study of a subject so vast as the houses of mankind throughout the ages and over the whole world is obviously impossible in one book. A sketch of the subject may prove stimulating to the general reader and useful to those whose interest lies along lines of social and historical studies and to workers in the important fields of architecture and engineering.

Evolutionary studies have been made of agriculture, of the family, of marriage, of warfare, of capital, of religion, of food, but not, we think, of the home. Such studies use anthropology, archeology, records, ruins, and history besides all the phenomena of the present day. There is a vast amount of interesting material on every race and period at which we can obviously only glance. We have tried to include only enough reference to every civilization to relate it to other parts of the picture. While extended space has been given to Egypt, Greece, Rome, and England because more particularly through them has our own American home evolved, yet we have included significant features of the housing of India, China, and Japan and the semi-civilized races of Africa and the Americas. The book is deficient with regard to the living conditions of the great masses of people in all the periods treated. Unfortunately it has been only in recent years that the historian has turned his attention to the life of the "masses." Most records of early times deal with those for whom one might say we now care least, the ruling classes and the wealthy. There is this much in favor of such records: The well-to-do with the power to do have mostly been the laboratory through which customs have changed and eventually improved, the material requirements of society have been amplified, and housing standards raised. Perhaps, therefore, if the development of this story seems unduly to ignore the masses and emphasize the life and homes of the princely and the

wealthy, the powerful and the great, it may be justified as inevitable.

The reader will, I am sure, feel with me appreciation for the carefully chosen and executed illustrations. The lively architectural sketches are the work of John F. G. Gunther and the plans and construction details were drawn by John W. Germond. My thanks are due to Miss Marjorie True Gregg for reading the manuscript, to Professor Paul Pigors of Harvard University and Professor Frank J. Robinson of the Massachusetts Institute of Technology, both of whom furnished some of the data on which, together with his own research, Mr. Burchard has based his manuscript. Mr. Richard B. Gregg kindly supplied the section on Modern Indian Homes. My own contributions to this text are clearly indicated where they occur.

ALBERT FARWELL BEMIS

BOSTON, MASS.
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Introduction

MAN has ever been concerned with two primary functions, the maintenance of life and its reproduction. The first of these has been based on two primary foundations, food and protection from elements and enemies. The second has demanded a mate or mates. Shelter, to preserve life and beneath which to rear progeny, is therefore a fundamental need for both functions. While food, shelter, and clothing are often listed as the three fundamental needs, clothing really takes a secondary place, and is less necessary as protection against most climates than might be supposed. Perhaps it serves more the reproductive function — as suggested in Anatole France's "Penguin Island."

Shelter, however, is of supreme importance. It fends off the elements and enemies. It is the spot where children are fed, warmed, and protected while they are yet helpless. As time has gone on we have come to think less of the home as physically protective and more of its importance as a place of abode, thought, and education. Strangely enough, no one book¹ appears to have traced its development though the subject is surely of major interest to society.

In this volume we study the development of the home from the dim, distant, and simple Pliocene period down to the complex days of 1933. It is a study of an evolution. The trend is not always upward either physically or socially. It is not consistent and it is full of lacunae. But through it all certain major threads may be observed.

¹ With the exception of "*L'habitation humaine*." See Bibliography.

No one civilization of early times will afford us a well-rounded picture of its home. The data are fragmentary or they suddenly become entirely too complete so that in the welter of facts and figures it is extremely difficult to tell the direction of progress. Throughout the study we shall frequently come on bits of fact that in themselves are too small to justify any major conclusions but that none the less throw a strong light on one man at one time.

There are genealogical difficulties surrounding this study. The American of today is no descendant of Babylonian, Egyptian, Greek, or Roman. A considerable and growing school of historical thought accepts the Spengler dictum that Oriental, Magian, Classic, and Western civilizations have no real point of contact, and that a Westerner is fundamentally incapable of understanding the shadings of Magian or Classic life. Archeological lacunae, furthermore, are many, and often what looks like fact in an antique civilization is really a projection of the archeologist's imagination based on his knowledge of present conditions. We do not know where the descendants of Cro-Magnon man may have settled. We cannot work out the connections between the primitive civilizations. Consequently prehistoric life as we know it may have no closer relation to antiquity than antiquity has to the life of today. But we must take such facts as we can find and, restraining imagination and romancing as best we may, seek to build up the story of what the home of man has been. We shall tell this story along two lines, that of the physical and mental development of man as an individual and that of his social development in groups.

The thread of physical and mental development of the individual is fairly continuous. Man's control of the natural world about him has almost steadily increased. There are to be sure a few lost arts but not so many as is popularly believed. Throughout our study we shall find a general material progress, slow and difficult at first but ever accelerating, until in the last fifty years man's genius for producing new things has become so great as to change his problem from one of supplying a need

to one of selecting among many means of satisfying that need. We see that man has improved the structure of his shelter and, much more clearly, that he has added innumerable appurtenances for light, heat, ventilation, sanitation, recreation, communication, luxury, and beauty. In all these appurtenances we shall find development from civilization to civilization. In the case of the shelter itself we shall notice a rather rapid development at first and then a slowing down until the shelter itself has almost ceased to change.²

The line of social development is not so clear, involving as it does the *nature* of man's mind and his spirit or *purpose* rather than his intelligence and ability to absorb data accumulated from the past. We shall endeavor to study this communal growth as it affects shelter economically, politically, and spiritually. The economic study will involve us in a consideration of the cost of living, of the types of life, rich or poor, of the materials used, and of the play of economic forces and trends (such as the present one toward urbanization). Throughout the early periods economic data are sparse but we shall not be deterred from using them.

In our political consideration of the history of shelter we shall observe the changes from insecurity to security; those in government, particularly in the matter of political interference with the house in the form of building codes, and sanitary and labor legislation; and finally government housing.

Spiritual values are necessarily the hardest of all to estimate; but we shall ask how religious concepts of the various periods affected man's abode, his community spirit and education, and above all we shall try to obtain a clear picture of family life.

There are two major difficulties in connection with this study. The first has to do with the order of presentation. We are here

² "The constant tendency of man as he becomes civilised is to repeat, and, as it were, petrify in his improved dwelling, and even in his implements, the forms that once had meaning, but which have neither meaning nor use any longer." — Cook, *History of House Architecture and Decoration*, in Gately's "Progress." The statement is particularly applicable to housing. There is a distinct tendency for "ontogeny to recapitulate phylogeny."

primarily interested in the thread of evolution which has resulted in the contemporary home of the United States, which for convenience is referred to throughout this work inaccurately as "American." None the less we may not wholly ignore other homes of 1933, which range from the primitive tree house of the Sakai and the *maloka* of the Amazon, through the unique constructions of Japan and India to the modern homes of Europe. To place a study of these in the main body of the text would interrupt the flow of evolution; to put them at the end in a group by themselves would lead to a *mélange* of unrelated expositions and an anticlimactic conclusion.

This difficulty has been resolved in the following way: Although no primitive civilization of today is entirely free from an injection of Western culture, these civilizations do on the whole definitely represent a jelling of evolution at various stages (principally the hunting and hoe cultural periods). Accordingly the primitive types of contemporary housing have been discussed in the chapters on prehistoric homes to which they correspond in evolutionary development. American Indian homes of a century ago fall in this group but are considered of sufficient interest to deserve a separate chapter in the first section of the book.

It is impossible, however, to treat Indian, Chinese, Japanese, and European homes in this way, as they represent different standards from our own rather than more primitive ones. Accordingly after discussing the prehistoric and primitive types which carry the development of man well into the agricultural stage, the first section gives way to the second. This in turn treats the main trend of evolution from the Semitic and Classic civilizations through the Medieval, Renaissance, and Colonization periods down to today. This account deals primarily with trends which are reflected in modern American homes.

Finally the third section of the book deals with contemporary homes of civilized nations whether the civilization be Oriental, Magian, or Western. That form of home which to Western eyes appears the simplest is treated first and the following

chapters deal with modern homes in ascending order of complexity, culminating in the American home of 1933.

It is hoped that this treatment will not confuse the reader. It appears to be logical and least likely to interrupt the feeling of evolution.

In the evolutionary or second section of the book space does not permit the treatment of every civilization which may have had an influence, however remote, on that development. This section begins with a rapid glance at three widely variant Semitic civilizations of early antiquity, the Egyptian, the Babylonian, and the Jewish; at the two major developments of classical Aryan antiquity, the Greek and the Roman. At this point the study moves to the British Isles where it begins with the early Britons and follows our ancestors through the successive Roman, Saxon, and Norman invasions down to the Middle Ages. The life of medieval Europe is well exemplified in English history and sufficiently for our purpose, and we select from the mass of facts such physical, economic, political, and spiritual items as seem to concern the homes of the English people. These threads are carried on to the period of Colonial expansion, where they are dropped to be picked up again in America.

In the Preface, Mr. Bemis has pointed out that this study is deficient in its history of the homes of the masses. This deficiency is inevitable, for the homes of these people were and are usually built of the cheapest and most perishable materials. The temples of Egypt, Greece, and Rome survive as do the palaces, the circuses, the theaters, and the fora. But the homes of the masses are soon destroyed by the elements and archeological reconstruction is more often than not mute on the subject. Moreover, it is only quite recently that the growth of sociological science has called serious attention to the lot of the common people. Hence, in addition to the lack of physical remains, there are almost no literary ones. A fragment from Homer, a brief poem by Petronius are the only sorts of source material that seem available and these are few.

Thus, then, although this story of the growth of shelter is liable to error both actual and conceptual, we do not hesitate to present it, for the written history of man's development lacks this particular study. If it serves no other purpose than to recall to us the wonderful thread of spirit that has come down through generation after generation of homes it will not have been written in vain. There is something noble even in the hovel of the Egyptian poor man, for it too was a home. In it man lived, loved, entertained, was born and died, no matter how meanly. In it his children were reared. If we are shocked by its physical quality we may rejoice that we do not order things quite so badly today. If we are disturbed about modern conditions we may take heart by realizing that as we have progressed beyond the Egyptian hovel so our descendants will eliminate the evil features of today. There is further comfort in remembering that we seem to accelerate in our physical progress.

“ ‘ Science has made it possible for each to work at routine tasks half as long as formerly and at the same time to consume twice as much wealth as formerly. Fourteen hours of labor, shared by women and children, once provided hovels, lice and black bread for most people, luxury for a few. Seven hours of labor will now supply comfortable homes, warm clothes and healthful food for all.’^{3 4}

“ Thus, as we study man's progress through the early and later hunter stages and the early agricultural stages of the Neolithic peoples, then successively through the historical nations (Sumerian, Babylonian, Egyptian, Grecian, Roman), and then from medieval civilization to modern scientific civilization, we attain to a rational faith in man's capacity for infinite progress.

“ Freedom not only of the body but of the mind is increasingly recognized as due to all classes of peoples to the degree that modern conditions of coöperation permit. Freed from a large part of his material cares, through control of his environment, in an atmosphere of increasing freedom supplied by his heritage of social evolution, man of the future has limitless possibilities of evolution

³ “ For all ” is obviously over-statement.

⁴ Cattell, J. McKeen, in *Science*, January 1 and 8, 1926.

along those lines which are open only to his species. Man's hunger for growth and conquest cannot be sated with dominion over the physical environment. Who can foresee into what realms of mental and spiritual achievement he may advance? ”⁵

⁵ Shimer, Hervey Woodburn, “Evolution and Man” (Ginn & Co., Boston, 1929), p. 186.

PART I

Prehistoric and Primitive Homes

CHAPTER I

The Hunters

EOANTHROPUS

THE first animal resembling man which appears on the horizon of the far past is the dimly discerned Eoanthropus, a product of the Pliocene geological epoch. Opinions differ as to whether he was really on the main trunk that eventually led to *homo sapiens* or merely an offshoot soon extinct. We need not be interested in the controversy but may consider him as the first milestone on the narrow upward road.

Nearly all we know about Eoanthropus is speculative. His remains were found at Piltdown in Sussex, so he is often called the Piltdown man. He was not a handsome person, with his flat and vertical forehead, his thick skull, his chimpanzee-like jaw, but his brain capacity was surprisingly large. Undoubtedly he would have been more at home among apes than among men. Presumably he sometimes walked on two feet. His existence was probably all animal, his habitation purely arboreal. In him we can discern little suitable for comparison with man but he probably did have a certain amount of social loyalty and organization, a trait common among the apes. There are for example authenticated cases of a group of gibbons attacking the largest and fiercest of the cat carnivores to save one of their number from death. Community defense may therefore be regarded as almost the oldest idea running through the minds of manlike animals and descending to man.

In our pre-primate ancestors tree life developed the hand, agility, quickness of decision, the first increase in brain ca-

capacity. It is by no means unknown in present-day human existence. There are still many tree houses in the tropics, notably in the Philippines and Malaya. To class these houses, however, with those of ancient arboreal man would probably be a mistake as they represent a developed structure for which one or more trees are utilized as foundations, principally in order to obtain protective height.

It is quite likely that the change from arboreal to terrestrial life was forced upon man by external causes. Presumably the chief of these was a slow elevation of regions previously forested which, with the increased altitude, became arid.¹ When plains developed man descended from his tree to go on trips of discovery upon the ground. This moving about on the ground developed him physically. It forced his mind to work more quickly, strengthened his lower legs and presumably his lungs, as he must often have run for his life. Some writers think that, with the departure from trees, man at once began to build structures, taking to cave life only with the invasion of the glaciers, and that therefore cave life was merely a temporary phase in the course of man's existence and not a definite development. We prefer to assume that cave life did represent a definite stage in man's evolving shelter.

EOLITHIC MAN

With the beginning of the Quaternary period, man's progress becomes so rapid that it is desirable to drop the geological designations, and take up cultural ones. As there is always considerable confusion even among well-educated people with respect to these two terminologies, Fig. 2 is presented, to show man's development in both geological and corresponding pre-historic periods.

The Eolithic or early Stone Age witnessed the development of two offshoots of the Neanderthaloid stock, the Heidelberg

¹ An example of this type of geological change may be found in central Asia during Tertiary times. In the earliest Tertiary the region was covered with luxuriant forests but by mid-Tertiary the forests were more of a northern character and many open plains appeared among them.

Man, found in 1907 near Heidelberg, and *Pithecanthropus Erectus*, found in central Java in 1891. Neanderthaloid brain capacity was low. The men stood erect but probably with bowed knees. Their speech center was only about one-half as extensive

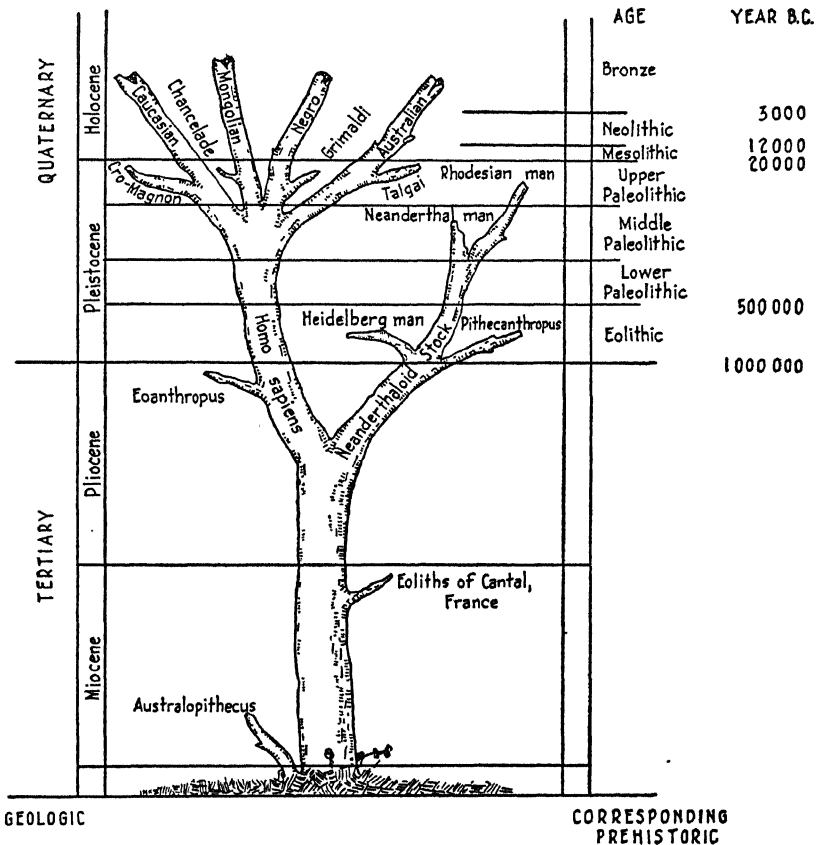


FIG. 2. EVOLUTION OF THE FAMILY OF MAN

Adapted from H. W. Shimer's "Evolution and Man"

as that of a modern man but they had some culture. For example the Neanderthaler probably developed a number of flint tools of a primary sort.² This man lived in caves for protection from

² Primary tools may be defined as those found only in nature, which because of their shape have some utility. Cultural significance lies in man's

enemies and from the oncoming glaciers. Some writers believe that even in this period man had fire but this conclusion seems to be rather the result of speculative reasoning than of evidence. The lack of a good speech mechanism precluded any real social organization, which presumably therefore was about on a plane with that of the gibbon, and spiritual life must have been confined to the vague fears experienced by the hunted, for man in this period was distinctly the hunted and not the hunter, and he spent the bulk of his time cooped up in his cave, peering out to see what dangers the day might bring.

PALEOLITHIC MAN

In the lower section of the Paleolithic epoch we find a long dark period of half a million years, at the end of which man's culture consisted only of a struggle for food and defense. Some rather striking climatic changes were taking place. In the middle of this period, the Chellean, the climate was warm throughout southern Europe and there were many powerful semi-tropical indigenous beasts such as the saber-toothed tiger, the straight-tusked elephant, the broad-nosed rhinoceros. During the next period, the Acheulian, the climate gradually grew colder. Grassy treeless steppes developed in Europe, marking the beginning of the last Ice Age. Meanwhile man had progressed but slightly although his tools seem to be somewhat better, with some indications of slight working of stones to change them from their natural form.

With the beginning of the Mousterian or glacial period, man, perforce, lived in caves. Edible plants grew scarcer and scarcer and he was forced to become a successful hunter. At the same time the southward migration of the more ferocious animals, driven by the ice cap, left him a clear field to hunt the animals which remained, wild cattle, horses, mammoth and reindeer. Necessity as usual mothered invention and secondary tools be-

ability to recognize that they might be useful. Such tools are the hammer of stone or the flint chip with an edge or point.

came common.³ Mousterian man was short, about five feet three inches tall, with massive limbs and stooping gait — much like the Bushman of today. Undoubtedly he was not handsome but he was a fine hunter and he certainly had some mastery of fire. One of his hand axes represents the limit of possible development of the type. Testimony to some social and religious ideas has been found in the cave at Le Moustier, France, where tools were discovered near a skeleton, evidently laid out formally, the head resting on a finely worked flint plate.

With the upper Paleolithic epoch came the dawn of man as we know him. The cold mists rolled away, the ice cap retreated, the sun came out, and fertility was gradually restored. There is evidence of a new race, the Cro-Magnon, probably owning bows and arrows and certainly mentally superior to the Neanderthal stock, whom they probably exterminated.

The cave remained for some time the principal shelter of the Cro-Magnon man. Some of his wall paintings indicate that occasionally in the early period he also lived in huts.

The development of Cro-Magnon man through the three divisions of the upper Paleolithic epoch is so gradual that in a book of this scope it is unnecessary to sift out one phase from another. His superior secondary tools, long and tenuous blades of flint, knives, awls, and the like, permitted him to manufacture relatively high-grade tertiary ones⁴ of bone, ivory, and horn, from which he produced javelins, knives, and harpoons.

Furthermore, this man's culture had expanded amazingly. On the walls of many of his caves, on a number of his tools, will be found exquisite drawings of mammoth, reindeer, and other animals, the number increasing toward the end of the period to ten or more. Since all of the animals pictured were game, the

³ Secondary tools are those formed in nature of approximately the proper shape for use but improved by working — pointing, grinding, chipping, etc. The cultural significance of the secondary tool is that man has not only recognized the approximate utility of the stone but has also been able to improve it by directed effort.

⁴ Tertiary tools are those which have been made with other tools and naturally their development is of high cultural significance, involving at least two steps in reasoning.

most logical explanation of this efflorescence of art is that it was developed as a control fetish, a totem, to bring good luck to the hunter.

But the quality of the work indicates that it was prompted also by a need for self-expression, the esthetic impulse, and this marks a big step forward on the cultural road. One further conclusion from the art is that the Cro-Magnon man had found some sort of light, probably a species of torch. Fire he undoubtedly had but many of the paintings are so deep in the caves that fires there for illumination would have been suffocating.

At the close of the Paleolithic period man had learned to walk erect. His brain capacity had enlarged. He could talk, at least haltingly. He hunted well and had sufficient religious sense to try to improve his hunting by totems. He had developed tools to a high point and controlled fire. He lived in such large caves that he probably had a vague social organization beyond that of family, perhaps the "old man" tribal form. He had learned to light his work and to keep warm but he was still a nomad without any idea of fixed abode. Consequently the idea of home as we know it was still beyond his comprehension and its place in the scheme of living could be no more than the mere problem of finding a cave. So long as he was nomadic in this widest sense of the word, his idea of social organization and division of labor must on the whole have remained vague. The rebel could leave his cave to find death or asylum in the next. There was no force but death to push him back into the bounds of social organization. It remained therefore for agriculture to bring about the next step, and agriculture was about to dawn.

NEOLITHIC MAN

But before that dawn, man rested 8,000 years in the Mesolithic, another epoch of very little progress. Cave art disappeared, many of the game animals disappeared. The diet was probably very monotonous, consisting of ninety per cent mammoth in Moravia, ninety per cent cave bear in Switzerland, ninety per cent shellfish in Denmark. The kitchen middens of

the period do indicate one cultural advance, the beginning of ceramic art.

Depending upon their chief interest, various writers have traced man's later progress in terms of his religious belief, of his family and social organization, of his brain capacity and his inventive faculty. At the base of all these, however, lies food and no more simple and at the same time proper basis for considering his development exists. Economics in original Greek meant "pertaining to house management," but fundamentally its meaning might be paraphrased to "pertaining to the obtaining of food." On this base civilization may broadly be classified in rising order as

- (a) The foraging culture
- (b) The hunting culture dominated by
 - (1) Small game
 - (2) Large game and
 - (3) Fish
- (c) The agricultural culture as expressed in
 - (1) The hoe
 - (2) The flock
 - (3) The plough and the domestic animal
- (d) The industrial culture, which however rests strongly on
 - (c) as in itself the industrial culture does not produce food.

On this economic basis all the phenomena of the development of man's home may be set and examined.

THE FORAGING CULTURE

The most primitive of all men knew no weapons. They were not even thoughtful enough to observe that nature had left, lying about in the forests and on the hills, clubs and sharp-pointed rocks which might serve them well in an encounter. Probably more agile than modern man, they perhaps were able to catch some small animal occasionally and kill it with their hands. On the whole, however, they subsisted on nuts, fruits, and edible herbs, which abounded in their habitat. As time went

on they exhausted the supply of a neighborhood or, more often, nature's local bounty became insufficient. Hence they had no reason for a permanent abode and knew none. Their homes as we have seen were probably in trees, the leaves of which protected them from the brunt of vile weather and the height of which guarded them from their many animal enemies below. Leaving these trees, they sped furtively to the nearest feeding ground always keeping an eye out for an enemy. At night they made a sort of crude nest in the tree. It is doubtful that the same tree served them more than once.⁵ This aversion to a previous day's habitat may account for the *tabus* still persisting in certain native tribes against re-occupying a house once deserted or using any materials from an old house in the construction of a new one.

What family life was like, no one knows. It was undoubtedly very simple, perhaps like that of some of the great apes who are monogamous during the period of gestation, birth, and very early childhood of their progeny. Undoubtedly there was some paternal and maternal affection for the new-born. But the child unquestionably came early of age and left the family forever. There was no social organization beyond that of the family if we except a certain amount of cooperative endeavor in the face of a common enemy. Life was very simple and yet full of danger and such religion as existed was purely that of fear. If there were any rites, they consisted of propitiation of evil gods and prayers to ward off death.

THE HUNTING CULTURE

Small game. Finally some man picked up a sharp stone and slew a rabbit, monkey, or other small and harmless animal. This set him thinking. The diet of nuts, fruit, and herbs was undoubtedly monotonous. Slowly he developed rude weapons. To a stick he fastened a sharp-pointed stone and made a crude

⁵ The orang-utan of today spends some time towards evening making a clumsy but slightly complicated nest or bed and in the morning leaves it forever.

lance. The bow and arrow he developed after long effort. The sling shot or some method of propelling stones other than throwing them may or may not have been a development of this time. At any rate, not daring as yet to attack larger animals, he found himself interested in small game. But nature has made small animals quick of movement and sly and furtive in their actions. Man could not catch these animals and he had to have fast-moving weapons. Moreover the crudity of their form made it impossible — even if he were manually dexterous, which is doubtful — to make a fair hit. Fortunately, therefore, he was able to find, in the herbs, poisons which added to the tips of his weapons made them deadly if they struck even in an otherwise non-vital point. Greater accuracy, too, came to him with the development of the blow-pipe. However plentiful small game may be, it is not easily observed, and man as he foraged for his standard diet carried his weapons along principally on the off-chance that he might find some small animal. Still he ate chiefly natural vegetables and fruits, maggots from the under side of tree bark, locusts, grasshoppers, snakes. He was not subject to *tabus* and anything edible was food for him.

The small-game stage of hunting, however, represents a marked step forward by man. He acquired greater agility and freedom of movement. He left the tree for a cave or a rough shelter of twigs and bark thrown up almost at random. His religion perhaps advanced to the extent of prayers or rites for success in finding game. His family and social life showed no further improvement. Such a society somewhat contaminated by European contacts exists today among the Bushmen of South Africa, the Sakai of Malaya, the aborigines of Australia. They are shy and hide from the approach of others. They are quick and agile and, by our standards, treacherous.

The Bushmen are a good example of this stage of culture. The people are probably the aborigines of Africa. They are very short, generally under five feet, dirty yellow in color, emaciated, with deep-set eyes. They smear themselves with ointment which,

collecting the dust, forms a permanent rind. Over this they wear a pelisse of skins and plaited hide sandals. They are fond of ornament.

On the plains the Bushmen live in low huts of reed mats or in holes in the ground. In the mountains a precarious shelter is formed among the rocks by hanging a mat to windward. There are no household utensils except ostrich-egg shells, in which water is carried. Fire is made by rubbing hard and soft wood together. They own no cattle or other domestic animals except a few half-wild dogs, and have not the slightest rudiments of agriculture.

They subsist by hunting, for which they have a good bow and poisoned darts. Physically active, they can run down many kinds of game. Life is one of intermittent starvation, days on the hunt, and then gluttonous eating. It is said five men will eat a whole zebra in a few hours. Meat is half-cooked. In hard times when game is scarce the food consists of lizards, snakes, frogs, worms and caterpillars, honey, bulbs, and roots. They smoke extensively.

They take delight in graphic illustration and in the rocks are a good many drawings. It is possible that they represent a stoppage of civilization about at the stage of the men of the cave art. In any event, they represent the lowest form of culture found in Africa and one of the lowest in the entire world.

The Sakai are another living people thoroughly representative of this stage of culture. In the jungle of Malaya the trees rise high without branches to the top, where they throw out a thick roof of leaves, through which no sunshine penetrates. Below is a luxuriant and humid vegetation. The smell of malaria is everywhere. Only heavy rains can penetrate the leafy roof but these are frequent enough and there is no dry ground. The leeches are large and actually smell out a human being miles away and move toward him in armies. Here the traveler has his tent pitched by the natives. Four sticks are set in the mud as corner posts and two longer ones at each end support the ridge. Small bamboo or rattan branches are fastened at the sides and



FIG. 3. SAKAI TREE HOUSE

bent over the ridge. Then large leaves of the attap palm make the covering.

In this jungle live the timid and savage Sakai, whose only weapon is the blow-gun and who always use poison darts. Their houses are built in forked trees from eight to twelve feet above the ground and reached by bamboo ladders, which are hauled up at night or in case of attack. The house is much like the tent just described but the floor is made of bamboo lashed together and bound to the tree limbs with rattan. The sides are of rattan and the top of attap leaves. One kind of these leaves lasts only three or four years but another is good for ten and some of the leaves are six to ten feet long and three to four feet wide, almost large enough to cover an entire house. These people are probably the aborigines of Malaya. They have no tribal head, are unwarlike, and the men and women share both the labor and fruit of the chase, their entire existence being of the communistic pattern characteristic of nearly all primitive peoples.

Again, the native peoples of Tasmania are one of the most primitive still to be found on the surface of the earth. Although they are somewhat less degenerate than the Bushmen of South Africa, they were, when first found, ignorant of agriculture, had no domestic animals, produced fire by a drill, and lived in rude huts or breakwinds of sticks and bark that could not in any sense be called dwellings. They are nearly extinct.

The aborigines of Australia are supposed to be a very old Caucasian race who migrated before ceramic art, agriculture, domestication of animals, real homes, and weapons, had been attained. The organization of their society is the typical primitive tribe and family.

When first found they had no permanent homes. In the South they made windbreaks of sheets of bark arched over with the open side away from the wind. In Queensland they built of leaves. Other dwellings were formed of branches of trees or logs loosely covered with grass or bark, which could be thrown together in an hour. In West Australia the women collected from the grass-trees bundles of dead flowering stems six to seven

feet long. Digging holes in the ground with sticks they planted the stems to a depth of eight inches, setting them ten inches apart in the form of a horseshoe. The stems were made to converge towards the top, and withered, curled grass-tree rushes were fastened to them, using the seed vessels as nails. Green grass-tree rushes were cut and thrown so that, when the sharp points stuck, the weight of the stems caused them to bend down and remain in place. Thatching then began at the ground and a double layer was applied at the top. The whole was allowed to dry out in the sun for a few hours, after which a third coating was applied.

Within such houses there are almost no goods. The aborigine owns no chattels except such as may be carried on the person or used for transport: spears and axes, fish nets made of animal tendons, and canoes of bent bark. In negro Africa we shall find that the materials of an old house can not be used in a new one. The *tabu* in Australia was even more severe. Once a native had vacated a hut he never returned nor would any other native occupy the home. Food was very simple: meat killed in the chase, seeds, roots, grubs, and reptiles. Clothing was rare, both sexes going about entirely nude although during the cold season they might wear a cloak of skin or mats fastened with a skewer on the right-hand side.

The numbers of the aborigines are of course rapidly diminishing and they will shortly be extinct.

Large Game. Finally man grew tired of looking for small game and became more observant. He knew that the one sure place to find the little animals, the water hole, was fraught with danger for himself. He noticed that certain not very dangerous animals lived in large herds roaming the veldt or the prairie. He developed weapons with which to fight these. His long spear, his bow and arrow, were improved. But fighting these animals, individually perhaps harmless but possessing the tremendous power of the herd, was no task for an individual. Cooperative endeavor became more common. As among the Indians of the North American plains, he started fires or drew up a company

of beaters and drove the game to where the slayers lay ready. The game when slain was participated in, share and share alike. It was ravenously eaten and the tribe lay by, often quite hungry, until they could make another successful attack. This type of eating we have found among the Bushmen.

Herds of large game differ in habit from individual animals. They are constantly on the move. When man's principal form of sustenance came from the herd (a development which may have been parallel with not subsequent to small-game hunting, being in a different kind of country) he must perforce follow the herd. Hence the man who had settled down, if only temporarily, in a region abounding in fruits and small game now found it necessary to follow the herds. He became a nomad in dead earnest. His home must be portable and was usually a tent. His utensils must be simple, useful, and easily carried. His weapons must be as good as he could make them. The game furnished him with food, hides for tents and clothing, bone for weapons, tails and feathers for ornament. He usually lived in an individual house with his mate and young children but he traveled in company with other hunters.

Religion became a form of fetishism in which models or pictures of the game were often used as mascots. Ritual, gradually more and more abstract, took the form of hunting dances, prayers to gods of strength, of storm and war, and probably of the principal observable natural phenomena such as the sun, the moon, the stars, the winds, the rain, although the significance of some of these was not great to a purely hunting religion. It is such a stormy cult as this, the cult of all nomadic peoples unless they have been subjected to outside influences, that formed the basis of Jehovah of the Jews (Jahveh), originally a local god of Mount Sinai whose virtues were exactly those Moses needed to teach his people in order to conquer the promised land.

In such a civilization as this, men were of vastly more importance than women. We cannot go too deeply into the development of family life, for the students of sociology indulge

in high controversy concerning it. It would be convenient to believe that patriarchy and patrilinearism have always been with us, but the exogamy, totemism, and matrilinearism of many primitive tribes disproves it. It is more natural, although perhaps not generally accepted, to believe that, in a society where the male virtues of strength, bravery, and hunting skill were essential to survival, male children were much more desired than female. We know that female infanticide was often practised. This led at once to a scarcity of women, with two results: the raiding of other tribes for wives, i.e. exogamy in its simplest form; and lack of sure knowledge of paternity, due to polyandry — a condition leading to matrilinearism. At any rate, in the hunting tribe the woman was of second importance. She it was who did all the hard work. She made the tent, put it up, took it down, often carried it, cooked the food, fetched the water.

By this time the culture had shown considerable improvement. Man had mastered fire. He often built a really good tent. His ideas of property were in some cases well advanced. For example, among some of the American plains Indians, who belong in this cultural stage, the emblem on a man's tent was his own property. Domestic property was clearly delimited. There was still, however, almost no subdivision of labor other than that of hunting for the able-bodied men and drudgery for women, old men, and children. Slight saving for the morrow was possible in the form of dried meat. A characteristic analysis of this civilization may be found in the discussion of the Plains Indians of North America.

Fish. Many of the people who live in the hunting stage of development also fish. To this extent the fishing and big-game cultures overlap and the fishing adds nothing to the former, as it merely consists of spearing fish in rivers or lakes as a casual addition to the game-bag. There are, however, cultures which are primarily based on fish as the source of food and often of other articles essential to life; and these differ in several respects from the pure big-game culture.

When the chief or only reliance is on fish there is an immediate change in residential habits. People who rely on animals living in water always live near a big, and by no means accidental, body of water. The earliest of such peoples were the lake dwellers, who built their homes actually over the waters. Later we find the Indians of Puget Sound, who relied on the water for their food. Contemporary with us are the Eskimos. Fish are not so migratory as game and in general well established fishing grounds do not vary much from year to year. By the lake dwellers, fishing grounds were perhaps artificially created by the deposit of refuse from the houses which would attract the fish. The Indians of Puget Sound or the Innuits,⁶ on the other hand, could not thus live on the fishing ground. They required boats to get to and from their hunting territory and needed real skill in the handling of water craft. Moreover, with the fishing grounds sharply localized, there was no point in moving around and they tended to build a semi-sedentary type of dwelling not more than twenty miles from the shore and usually right on it. They indulged in minor hunting but fishing was the real pursuit.

Except for the more fixed form of the dwelling and the different weapons required, and in the case of the lake dwellers the development of fish weirs and traps, there are few essential differences between the fish and the hunting cultures. Communal action is less needed and is less well developed, but equality is fairly well marked although naturally unusual skill in the art of getting fish reaps its reward. The fish people seem to have been a little more ingenious in their use of all parts of the game for many different purposes; but their home and social life and their religion were all on about the same level as those of the big-game people.

It should be pointed out that among nomadic peoples questions of sanitation are less important than among sedentary populations. The Indian always on the move had little need to take special pains for disposition of his ordure. Moreover, in the

⁶ A discussion of whom appears in Chapter IV.

case of most of the sedentary fish-peoples, a relatively small population and the nearness of large bodies of water minimized the necessity for sanitary provisions. This is why such peoples show an indifference to sanitation such as would otherwise appear inconsistent with the general level of their culture.

CHAPTER II

The Farmers

WITH the Neolithic period we come face to face with a man whom our imagination can more readily picture—the farmer. The bulk of informed opinion inclines to the belief that the farmer Neolithic man invaded Cro-Magnon territory and drove out the Cro-Magnon hunters just as the latter had previously driven out the Neanderthaler. But bucolic peoples are customarily not as good warriors as hunting peoples and it is quite easy and much more flattering to an estimate of man's mental prowess to think that, with the dying off of game through the Mesolithic period, necessity again forced invention and brighter men took to agriculture.

Whatever the reason, agriculture was a dominating force in changing the whole life of man. His predecessors had been food gatherers but now he was a food producer. His diet became more varied: fish, flesh, fowl, garden produce, and cereals. The increase of vegetable food undoubtedly stimulated mental effort. Domestication of animals is impossible without some love and understanding of them and this therefore marks a great change in man's spiritual attitude toward his environment. Furthermore, cultivation of plants and to a degree domestication of animals enforced a fixed abode. Control of the food supply made possible village life and societal organization. The former, moreover, was furthered by the wide variety of occupation developed by this more intelligent man with the resultant necessary division of labor. He began to mine for his flints instead of picking them from the surface of the earth. He learned knitting, spinning, weaving, the art of embroidery. Near his

lake sites he developed navigation in dugouts of oak. He produced a rude cart with wooden wheels. It is even said that certain phases of his surgery were remarkably modern, including

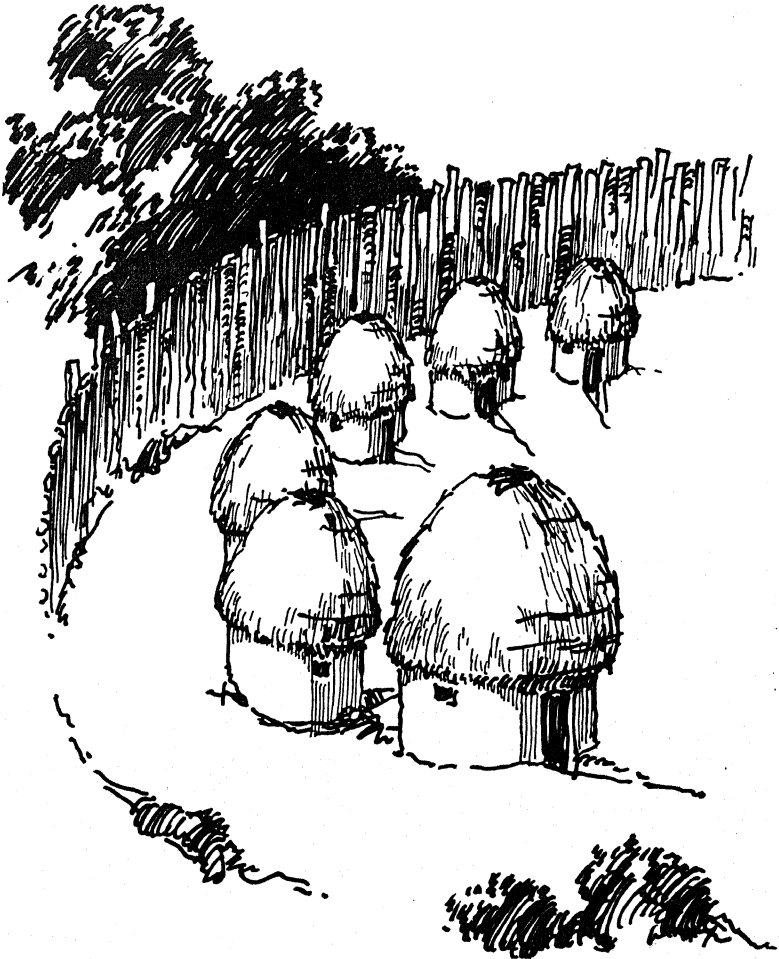


FIG. 4. A NEOLITHIC LAND VILLAGE

trephening to relieve depressed fractures and to remove diseased bony tissue.

The villages of the Neolithic peoples were of two types, those on land and those on lakes. The former were the simpler.

A land village consisted of a general stronghold, sometimes

surrounded by a palisade, sometimes built on an island in a swamp. Within the stronghold there may have been workshops and a great number of isolated cabins, perhaps as many as seventy or a hundred. The huts were small, five to seven feet in diameter, built over a pit to increase head room. Their very simple walls were of stone, clay, or wood. As a rule they consisted of a single room although there are some remains of two-roomed huts. The buildings had narrow entrances and could be constructed in a few hours. The door was small and well barred. If there was any window at all it was small and set high in the wall to shut out the gaze of the passerby. There were no fireplaces, or at least no smoke flues. The fire was built in the middle of the room and smoke escaped as best it could. There was little or no attempt at privacy, as nearly all living, eating, and sleeping, went on in one room; and no real effort to achieve comfort, as the furniture consisted only of a sleeping arrangement, usually a few layers of skins. The only pretense at cleanliness was the frequent deliberate burning of the hut to exterminate the accumulated vermin.

In addition to this type of hut there are also traces of villages with individual huts large enough for five to twenty families, and sometimes a different type of organization consisting of dwellings for women and children, with large dormitory huts for the males, an arrangement still common among some Africans.

The lacustrine villages, examples of which have been found all over the world,¹ represent a higher development. Placed on the lake, the pile dwellings were naturally well lighted and provided with ready transportation on the surface of the water. The cabins were at once near to a source of supply of food — fish — and a means of sewage and refuse disposal, the latter actually serving to attract the former. The villages were easily defended. From their open situation an enemy could be descried from afar and the lake itself afforded a considerable degree of natural protection.

¹ They are still existent in the marshes of Cambodia and New Guinea.

The ground plan of a lacustrine building was rectangular, covering an area of eighty to one hundred square yards. This area was divided into a large uncovered platform and a number of rooms, at least two of which were a kitchen and workroom, and a living and sleeping room which housed the fireplace, the loom, the beds. These rooms were covered with a high pitched



FIG. 5. A NEOLITHIC LAKE VILLAGE

roof with a single ridgepole. The walls were of oak, beech, or birch slabs plastered inside with clay and with the exterior chinks also filled with clay. The floors were carpeted with birchbark.

Neolithic man had obtained a fair degree of comfort and stability. He had also acquired a new religion. Fertility worship is interwoven with the rise of agriculture. At first this

simple worship was one of sun and rain and earth, with propitiation of the evil forces of drought, hail, snow, wind, and frost. It developed rapidly, however, toward a real fertility cult. The obvious relation between fertility and childbirth was not long in being observed. Then came the curious mixture of soil and phallus worship that eventually degenerated into the exotic obscenity of Sodom and Gomorrah. But at the stage where woman's fertility became important we find an important and consequent social change in man — the elevation of the child

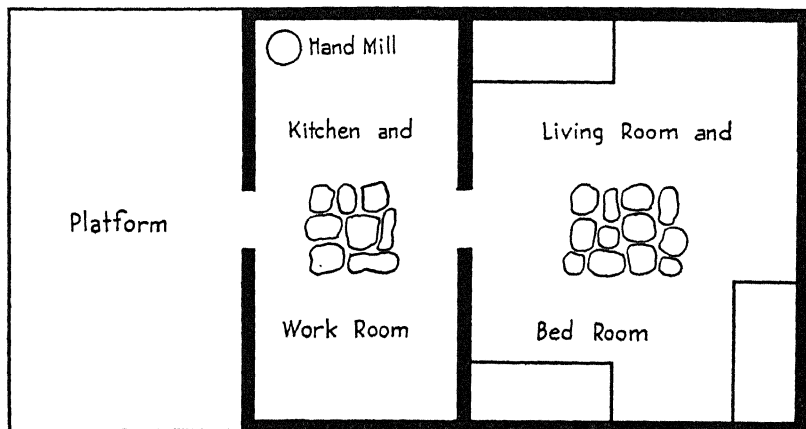


FIG. 6. PLAN, LACUSTRINE HOUSE (conjectural)

as the emblem of desired fertility and the improvement in the position of the woman. With the advancing of woman to a higher spiritual position there came also an improvement in her physical position. Division of labor permitted her to do the cooking, planting, weaving, spinning, perhaps even the pottery making. From a hanger-on or a serf she changed to a helpmeet. At times the organization went so far as to become matriarchal. The rise of woman is perhaps the greatest contribution of the Neolithic culture.

AGRICULTURAL CULTURE — THE HOE

Had man always relied only on the caprice of nature to supply him with enough vegetation or ample numbers of game, population would never have increased to its present levels.

Hunting civilizations must perforce remain simple and small, simple because of the necessity of nomadism, small because a relatively large area is required to support a relatively sparse population. Therefore the discovery by man of the first principles of tilling the soil made possible all his subsequent development.

The early farmers merely observed that they could reproduce a desired grain or vegetable by digging up the soil and planting seeds. The soil they tilled with a crude hoe and turned it up but little. The seeds they sowed in drills or more often broadcast. They did little in the way of fertilizing or maintaining the ground. The growing of grain permitted storage of food over a considerable period and thus encouraged husbandry. The storage of property in the shape of food as opposed to eating it on the spot naturally developed the property instinct to a greater point than hitherto. Perhaps lending, as well, here had its inception.

This agriculture knew nothing of rotating crops, although among some of the African tribes now in this stage of culture fields are occasionally allowed to lie fallow. On the whole, however, there was a tendency to exhaust the soil in a few years so that, while the civilization became sedentary, it was so only temporarily and every so often the village would have to move.

In the early hoe culture a division of labor hitherto unknown became possible; but the division was principally in the direction of making the woman produce the food as well as take care of the other activities of the house, while the man had more leisure for discussion, drinking, sleeping, gambling, or indulging in some form of craftsmanship which was strictly reserved for him. Domestic industry began to flourish at least to the extent of additional preparation of food in the form of ground flour. An art of making utensils also came into being, resulting in basketry and ceramic lore.

The change was probably not immediate and undoubtedly there was always some hunting superposed on the agriculture. Thus the New England and Iroquois Indians were primarily

farmers but they also hunted. Communism became more general. The society was a little more thoroughly organized and we begin to see signs of every man turning over a small portion of his produce to the chief. There were alliances for defense or for offensive war and the war became one to obtain new fields. Ownership of fields became of greater significance and the right of the individual owner to whatever lay on that field was clearly established. Houses were communal, as with the Iroquois, the Dyaks, the Amazonian Indians, and some of the African tribes. In such cases the rooms were of about the same size and convenience for every family, being a function of family size rather than of importance in the community. There were no extremes of wealth and poverty. Among some African tribes where individuals live in their own compound within the village wall the houses of the individual are built by the community. Co-operative endeavor became particularly significant at the time of harvest and every man's crop was harvested by the community, thus saving time and labor.

Despite the increase in the importance of woman under this culture the man still reigned supreme and polygamy was common. Thus we find the African *kraal* with a hut for each wife. We also find as a characteristic of the culture the male dormitory hut with its occasional female ministrants and the custom of *pirrauru*. The North American Indian was apparently more severe in his morality than the Malay, the Bornean, or the African; but the basis of thought was the same.

Finally the establishment of at least a semi-permanent village containing stored property worth losing or winning and thus worth fighting for, led to the more careful building of homes that were at once suitable shelters against weather and capable of defense. The type of house varied tremendously with the available materials and the climate. In New England, the houses were of bark and branches with pitched roofs. In Africa they were made of branches and thatch, as there was no winter to stand, but there was severe rain and thatch was a dryer roofing than the bark of tropical woods. Shapes varied from round

to rectangular for reasons which are hard to ascertain, but in some cases at least had to do with the construction methods employed. In Africa mud plaster was employed; on Puget Sound huge slabs of wood were used as the principal wall material. In all cases subdivision of rooms was generally regarded as unnecessary. Communal buildings might have slight partitions or at least indications of family areas but within the subdivision or in a single hut no further division was necessary. A central fire, beds around, an outdoor space for cooking when possible, a few granaries, sufficed for all needs and no one stayed indoors when there was any possibility of being outside. In Southwest America peculiar conditions of defense led to the highly articulated pueblo.

Throughout the civilization we now find the chief or head man, originally merely a leader in war, a man of undoubted physical prowess. The small amount of grain he received as tribute was really a sort of sign of his ability or even a salary for his services to the community; but in it lay the seed of tribute taxation which eventually, of course, led to wide disputes over land tenure among the agricultural cultures which progressed beyond the tribal stage.

Numerous examples of this type of culture might be adduced from contemporary primitive homes. The most significant of these are to be found among the African tribes, the Indians of the Amazon, and the Dyaks of Borneo. The same stage of civilization was also reached by a number of the North American Indian tribes.

A thorough-going study of the homes of African tribes is manifestly impossible in this work. The comparative absence of natural barriers throughout Central Africa has led to wide tribal migrations and innumerable subdivisions. For example, in one small section of Nigeria there are six villages each of which uses a definitely different language and not merely a dialectal variation of the same tongue. Houses and customs have become intermingled. The life is usually agricultural, sometimes cannibalistic, sometimes cattle breeding. Houses of the Congo

are generally rectangular with ridged roofs. The Bantus of the South and East have circular huts with domed or conical roofs. The Zulus still farther south have beehive huts. Weapons vary from the bow in Congoland to the spear among the Bantus; clothing from bark cloth or palm fibre in the Congo to the skins and leather of the Bantus; religion from fetishism to ancestor worship.

Hence it seems best to discuss one tribe fairly thoroughly and give a rather complete picture of its domestic life. For this purpose the tribe of the Ba Venda has been chosen.²

The Ba Venda live in the Northern Transvaal just south of the Limpopo River. They successfully resisted Zulu domination and until 1872 were completely hostile to whites. Hence their culture is on the whole less impaired than that of many of the other native Africans.

Their economic life is a mixture of pastoral and hoe cultures. Cattle are regarded as wealth rather than a means of livelihood, and subsistence is drawn almost entirely from cultivation of the soil. There is plenty of arable land and the ordinary people have gardens of from one-half to three acres while the chiefs and head men have areas worked by compulsory unpaid labor. Birds and animals abounding in the region are destructive to crops so the families sometimes occupy temporary huts near their fields during the planting and reaping seasons. Like most Africans, the Ba Venda is slothful and does as little work as possible to produce the necessary crop. Crops are not rotated, although sometimes fields are allowed to lie fallow for a year. Everything on the plot is the property of the owner, who may leave valuable property such as bundles of reaped grain without fear of loss. The women do most of the simple tilling, turning the ground with hoes. Each wife has her own garden, from which the husband may take any food he wants for himself but no more. Clearing, weeding, and harvesting are done semi-

² They have been made the subject of a particularly scholarly and complete monograph. Stagt, Hugh A., "The Ba Venda" (Oxford University Press, for the International Institute of African Languages and Cultures. London, 1931).

communally, accompanied by the drinking of much beer. The staple crops are maize and kaffir corn, both of which are used in brewing. Other crops include millet, sweet potatoes, beans, pumpkins, watermelon, fennel. The seeds are scattered broadcast and often two or three grains are grown together. Granaries are provided in the compounds and these look much like the huts but are built on stilts. The principal animals are cattle, sheep, and goats. Pigs are scarce, horses and mules rare and new, dogs popular, and cats disliked.

The family is a distinct unit. Polygamy is common and a family enclosure contains a hut for the husband and one for each of his wives. The proportion of men to women is about one to two, of men to children one to four. Each wife is responsible for the upkeep of her own hut and kitchen and the youngest wife is also responsible for the husband's hut. The women do most of the work but the men are concerned with anything involving craftsmanship. The man hunts and perhaps helps at the harvest or practises arts, while the woman stamps grain, fetches water and wood, tills her garden, and prepares the food. The husband eats alone in his own hut, the food being brought by the youngest wife. The children eat with their respective mothers when small, although the older children are separated according to sex and have separate huts. The husband sleeps alone in his own hut, where his wives visit him.³

In general throughout the African tribes there may be wide differences in marriage customs from the wife-sharing of the Bata peoples to the established paramours of the Balkis. The conventions, however, are definite, no matter how much they may differ from ours. Generally the social organization is patrilineal. Pre-nuptial chastity is demanded of women but post-nuptial constancy is not expected and often not approved, at least prior to maternity.

The Ba Venda formerly lived in large villages ruled by a chief and forming a strong and compact community within a

³ Fig. 7 shows a compound of the *Yungur* of Nigeria, which forms an exception and does not have a separate hut for each wife.

palisade. But modern times have reduced the large village and the unit now is small. In Chief Mbulahene Mphephu's village, for example, there were thirty-three men, seventy-three women, and one hundred thirteen children. This was an average-sized village of importance.⁴ There seems to be an increasing tendency for the individual families to live farther from the chief where they may be more independent. The prevalence of peace has of

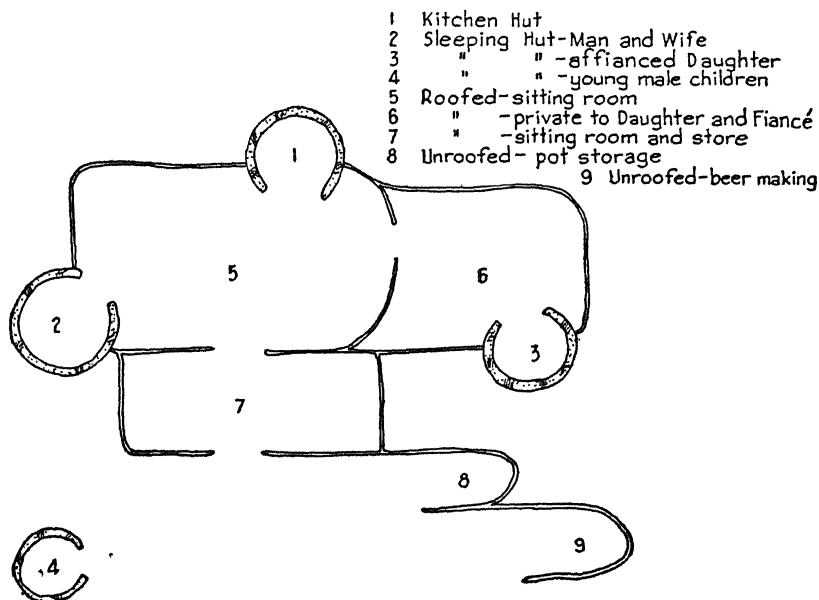


FIG. 7. PLAN, YUNGUR COMPOUND—AFRICA

After Meek

course contributed to make this possible. Communication between villages is made by the drum.

Within the village the men spend much time in social converse, gaming, and beer drinking. At sunset all the paths leading to the village are swept and in the morning all new foot-

⁴ In the Central Sudan the Bornu tribes, which are mixtures of negroes and Berbers, live in villages of thirty to fifty thousand. The Congo villages are also rather large. Here the *Bateke* build their houses in circular groups opening on a courtyard, a type also found in Malaya, while the *Bangala* villages are built in parallel rows two hundred feet apart. The former arrangement is more characteristic of all Africa.

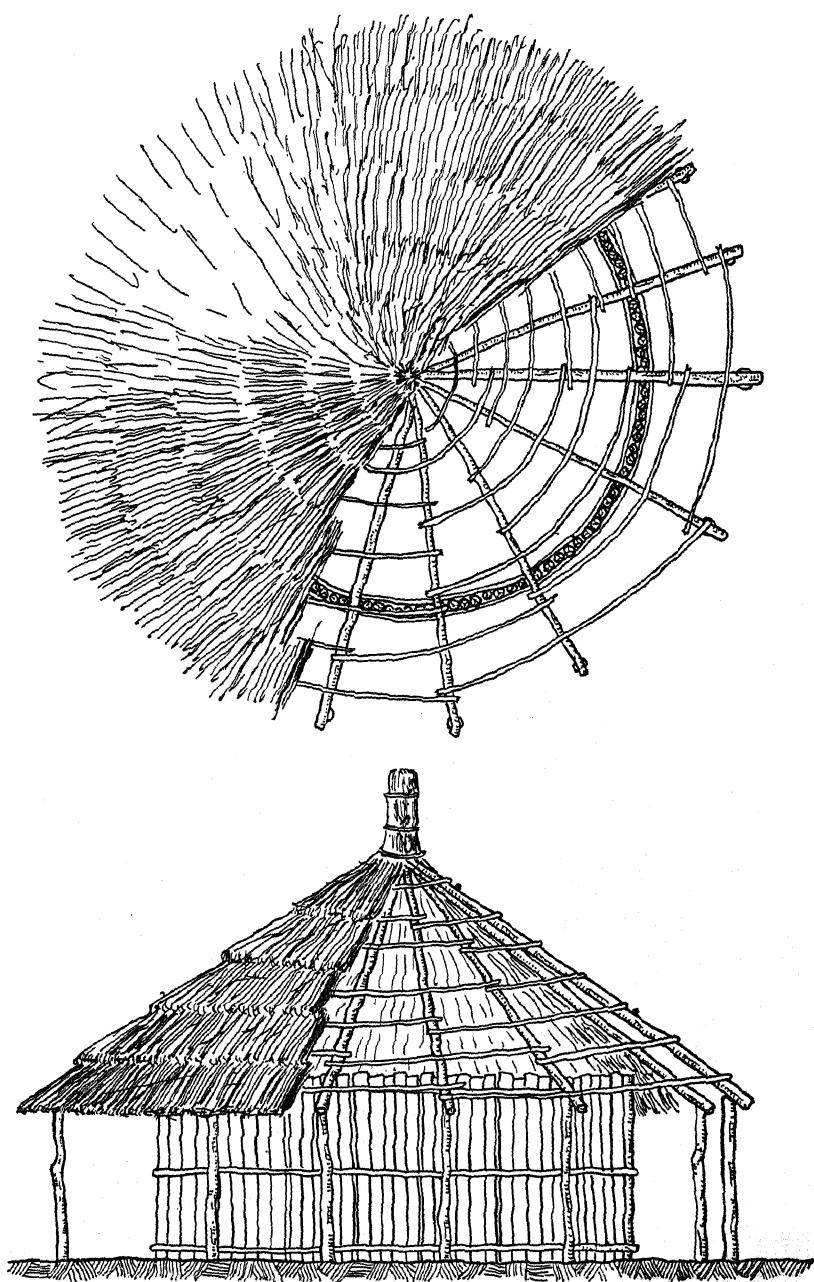


FIG. 8. BA VENDA HUT CONSTRUCTION

prints examined. After supper the evening is spent in a central hall gossiping and telling stories, and except at festival times everybody retires early.

The hut of a Ba Venda chief varies principally in size from those of his subordinates but it also has certain additional appurtenances. It has a side verandah and the best outlook. Toward the back and to the right is a small private yard where the chief's meat is hung and only the chief, his sons, and his favorite wife, may enter. Brick and iron are now used occasionally for the chief. Only the chief's hut has a school hut, a meeting room, and a guest hut; but all have courtyards, cattle and goat *kraals*, beer huts, granaries, and separate wives' huts, and often separate wives' yards and kitchens.

Before making any preparations for building, the builder having selected his site consults a medicine man, who by divination determines whether or not the site is good. He then marks it with sticks, for warding off evil, laid to the points of the compass. A specially prepared stick is nailed down at the entrance gate. In no event must sticks and grass from the old building be used in the new. This is quite common among primitive tribes.

Work is shared by both sexes, the men doing the skilled work involved in wood-cutting and thatching while the women cut the grass and do the plastering. The ground is marked out in a circle by a string. A trench is dug around the circumference and stakes three to four inches thick and six feet high are set as closely spaced uprights. At three points in the height flexible sticks are bound inside and out to the verticals.

The framework of the roof is made on the ground. Four long poles, perhaps five inches in diameter, are tied together near one end and the other ends are pulled far enough apart to overlap the walls about three feet. Between these poles other thinner poles are set and concentric circles of small boughs are laced at one-foot centers. The framework is pulled about to make a rough circle and lifted on the wall and adjusted till it fits. The roof is not tied to the wall but is fastened to uprights three feet outside forming a circular verandah. The wall framework is

then plastered with a mixture of puddled ant hills, cow dung, and ashes. Usually the plastering is done on both sides although sometimes only on the interior.

Long grass is tied into small bundles which are then tied together into a line twenty to thirty feet long. This is fastened around the circular rim with the uncut ends of the grasses pointing towards the peak and reaching halfway up. Similar bundles of smaller grass are then started from the bottom and



FIG. 9. AN AFRICAN HUT

worked up to the top in a spiral thus forming a double layer of thatch on the lower half of the roof. A stick is inserted in the middle of a tied bunch of grass, projecting a foot at one end. The lower end of the stick is thrust down into the peak of the house and the grass is pulled out to make a waterproof cap while the rest of the grass is neatly tied to the stick spire.

The important huts may have a two-foot wall of mud built around the verandah. The floor of all huts is made of ant-hill earth, thoroughly wet and beaten with sticks. A door of sticks and withies covers the entrance at night.

Fire is made in the middle of the kitchen; occasionally there is a special fireplace of concentrically placed stones.

Inside the hut two poles are fastened horizontally on top of the wall opposite the door. In front of them is a rack for food. A wooden peg is stuck just inside the door for the husband's hat. The sleeping mat hangs on a stick. Wooden blocks for stamping grain are sunk in the floor. Pets' baskets and calabashes complete the furnishings. Sometimes in the sleeping hut there is a small fireplace to the right of the door. In this hut the man keeps his sticks, axes, spears, and sacred objects. Here, too, is kept the meat. Drums rest on the verandah.

In fine weather, cooking is done in the yard. The huts and yards are sometimes painted in geometric designs and the decoration is performed by painting the mud walls with red and yellow ochres, white clay, and black charcoal.

The principal differences between the Ba Venda hut and any other lie in shape (round, oval, rectangular), pitch of roof (domelike, conical, gabled), and in the arrangement of the thatch (heads of grass up or down).⁵

The hut of the Mambilas of Nigeria is so different as to warrant more extended notice. The site is carefully leveled and the mud floor first built. Walls are a framework of reeds and canes

⁵ Some of these variations may be noted as follows. The huts of the *Bachama* of Nigeria are circular and the roof conical. The heads of the straw point upwards, which is neat but said not to be waterproof with the use of as little straw as is adequate with the other method. Sometimes the outer thatch may be supported, not by rafters, but by a bell-shaped dome of plaited grass matting.

The *Mbula* of Nigeria often join two or three huts together with a piece of matting.

The *Kilbas* of Nigeria assign three huts connected by a flat-roofed enclosure to each wife. Sometimes they place a conical thatch over this corridor and transform it into a partially waterproof living or sitting room. One of these huts is for sleeping, one for milling corn, and one for the kitchen.

The *Mumbake* of Nigeria actually provide a night urinal in the shape of a well at each end of the bedsteads, filled with sand. In some of their huts a specially built bedroom may be found, being a compartment shut off from the rest of the hut by a mud wall, the purpose being warmth.

The *Verre* of Nigeria do not make their roofs on the ground but build a scaffolding across the walls. Their huts often have two doors, one for an emergency exit.

cross-warped with ten reeds to each warp, built flat and then bent to a circle and fitted into a trench. The base is then cemented with mud to a height of one foot. The wall framework is lined on the inside with matting, one end of which is brought across the floor of the hut behind the doorway to serve as a screen (Fig. 10).

In its upper part the framework is reinforced with a thick band of grass around the circumference. Every hut has an

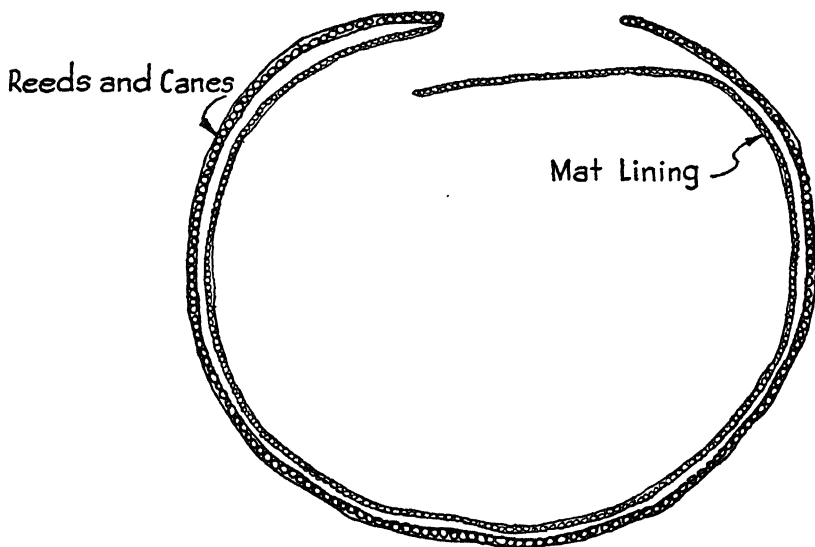


FIG. 10. PLAN, MAMBILA HUT—AFRICA
After Meek

upper story, whose floor is matting laid across bamboo poles placed at intervals around the circumference of the walls. Entrance to the upper story is by a trap door and ladder. It is used for bed room or store and at night a wood fire is lighted below to keep the sleepers warm.

Two-story houses appear again in even more highly developed form among the Katab of Nigeria (Fig. 11). These huts are oval in plan with a receding roof which is supposed to be more weather-worthy. The floors have broken pottery beaten

into their surface. The walls, smeared with red earth mixed with *dafara*, are slippery and vermin cannot ascend to the storage rooms.⁶

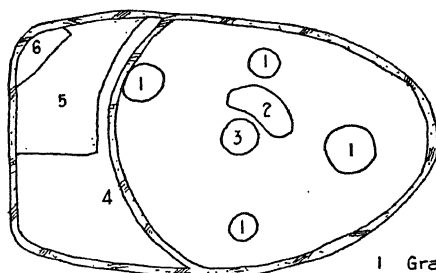
A string around a baby's wrist is all that is worn among the Ba Venda until the child begins to walk. Then a boy is given his *tsindi*, a rectangular strip of leather sown to the string in front and passed between the legs and fastened up again. A grown man's *tsindi* is made from the skin of a goat. This is the only essential garment; but in cold weather the men also wear a cloak, made from a complete goat's skin if a young man, a calf's if old. Sandals of hide may be worn in traveling or when working in the lands, but it is *tabu* to wear them in the village. Little girls wear a *shedu* of cloth and married women wear a *tshirivha* made from the skin of a sheep or a goat with the hair left on the skin and some slight sewing, stretching, and decoration. Scarification, so common among many African tribes, is rare with these people.

Material cultures are less adaptable than spiritual. Religion of primitive peoples who have been brought in touch with more civilized groups usually adapts itself to the new religion to a certain extent and the composite result is often extraordinary. Art forms also reflect the new without abandoning the old. But material culture is in any single respect resistant. The chief's feather bonnet is replaced by a silk hat from Park Row but the two are not made into a new hat. A Sears-Roebuck plough replaces the stick and the stick is seen no more. There is of course no African tribe now where knickers, silk hats, corrugated iron roofs, and the like may not be found here and there. But these amusing incongruities are beside the point.

The staple food of the Ba Venda is porridge made from maize. This is generally supplemented by an accompanying

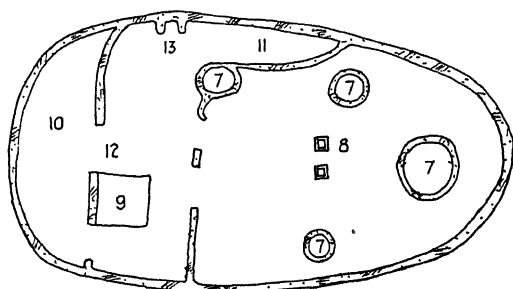
⁶ The huts of the *Ndoros* of the Cameroons have roofs which reach nearly to the ground and under whose projecting eaves wood is stored.

The houses of the *Ba Luba*, a Bantu tribe near Tanganyika, are rectangular, and there are remains of square pile houses deriving from a much earlier civilization. The huts of the Congo are also usually rectangular and sometimes very long, resembling the *kampongs* of Borneo and housing a plurality of families.

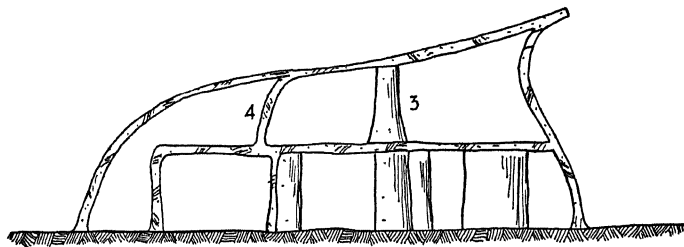


SECOND FLOOR PLAN

- 1 Granary Openings
- 2 Opening for Ascent
- 3 Conical Pillar—smoke passes thru to rafters but cannot escape.
- 4 Mud Arch roof support
- 5 Mud Shelf
- 6 Wood Shelf
- 7 Granaries
- 8 Fireplace underneath hollow conical pillar
- 9 Bed
- 10 Porch
- 11 Beer
- 12 Door 3 Feet high
- 13 Fireplace



GROUND FLOOR PLAN



SECTION

FIG. 11. PLANS AND SECTION, KATAB HUT—AFRICA
After Meek

dish of meat, green food, or some other delicacy served on a special wooden dish containing the salt. Caterpillars, locusts, crickets, and ants are favorites, raw or roasted. Sour milk is very popular, especially that of the goat. Eggs are hard boiled, and men, but not women, may eat them fresh. Meat is eaten in any stage of decomposition. This is cooked by roasting on a stick and is boiled only when the extraction of fat is desired. Every part of the animal except the valves of the heart may be eaten.⁷ Fish are not popular and used to be *tabu*, being regarded as a kind of snake. Fat is used on the body but not for cooking.⁸

Beer is consumed in enormous quantities in good times, both as food and as drink. Palm wine is occasionally served and a strong drink made from the prickly pear. Until recently tobacco was used only in the form of snuff, while hemp is smoked but not extensively.

The Ba Venda make a simple and good pottery by drying the clay for two days and burning slowly for a day. Sometimes they make a glaze but often simply decorate the pottery. Calabashes are worked for boxes and dippers. There are a few specialized woodworkers who make drums, platters, jugs, cups, spoons, and porridge sticks, occasionally doors, and often models of men, women, goats, and leopards. They have two kinds of baskets, both good, and among the less utilitarian arts indulge in bracelet wire-work and string-weaving. Other weaving, skin dressing, skilled work in ivory, and iron smelting, which once flourished, have all been driven out by the advent of European goods.

The arts and crafts of the African tribes are in general far from poor. They are primarily utilitarian rather than religious.

⁷ There are many *tabus* among which are lions, leopards, cheetahs, lynxes and other cats, dogs, hyenas, mongooses, crocodiles and snakes, vultures, eagles, hawks, crows, owls, storks, hammerheads, kingfishers, secretary birds, herons, and bats.

⁸ The food of other tribes differs only in kind and not in quality or variety. *Tabus* vary from tribe to tribe but they cover large quantities of animals in nearly every tribe. The *Lambas* make their porridge of boiled pumpkins, yams, cucumbers, and cassava. Throughout Africa among the negroid tribes grains of various sorts are the staple of diet.

There are no traces of sand painting and other religious work such as done by the Navajo, arts which probably represent a higher stage of culture. The differentiation of craftsmen is common.⁹

The religions of Africa are very complex. They range from fetishism to ancestor worship. They affect home life principally in the forms we have already noted, governing the building of the home and controlling food through *tabu*. *Tabus* also appear in marital relations. The religions are mixtures of animism and nature worship. On the whole they represent the propitiation of evil deities rather than the adoration of good ones.

Another example of this culture may be found in the Amazon basin. The land is flat and low and when the river floods it covers the land for many hundreds of miles either side of its bed to an area greater than that of Spain, Portugal, and France. The region is jungle but of a very different type from that of Malaya, where the tall trees break into leaf only at the top. Here the trees more nearly resemble our deciduous varieties but the ground is choked up with vines, parasitic plants, and lianas. Near the equator the temperature is naturally high and there is considerable humidity but the climate is said not to be so uncomfortable as that of India or the worse parts of Africa.

In this area live various types of native tribes. Those in the lower settlements of the Negro and other tributary rivers who have been in frequent contact with the whites dwell in rude mud-plastered huts with roofs of thatch. Farther up the river there are tribes like the aimlessly nomadic Pogsas with no settled homes. Others live in houses of thatch of beehive shape very like African huts. Still others build square or rectangular houses. South of the main stream the tendency is for each family to have its own home. In the Northwest the whole tribe dwells in one communal house, the *maloka*. Such a clan, sub-tribe, or tribe, numbering over a hundred people, lives in a one-room

⁹ Among the *Bechuana* of South Africa, for example, the *Barolongs* are smiths, the *Bankwaketse* potters, the *Barolong* wood carvers, and the *Bakuena* hut builders.

structure of which average dimensions may be one hundred feet by sixty, and ninety feet high at the ridge, although the eaves of the roof are scarcely three feet from the ground.

In building a *maloka* a large open space is carefully leveled. Then three pairs of large trunks with connecting beams are set up at the corners and in the middle of the long sides of the rectangle. Between these, smaller posts, also braced with horizontal members, help to support the roof as well as to mark off the residential areas of the individual families. No nails are used, but *liana* thongs serve as lashings. The roof of the house is of woven palm-leaf thatch and takes months to make, so that the tribe moves in as soon as it is done and before the thatch walls are completed.

The whole central part of the *maloka* is a public space for receptions, dances, and other fêtes. Along the sides of the building there are rows of family hearths, one for each married couple. Between the subsidiary rows of posts supporting the roof a frail crossbar delimits the apartments. Each is of the same shape, the same size, and the chief occupies one of them near the rear of the building.

Sometimes as in the tribe of the Waikanos the four main corner posts are highly decorated with designs of boas winding around them done in black and white, sometimes in layers of colored clay. Occasionally, moreover, these boas have been anthropomorphized.

Life within the *maloka* is largely communistic. The house and garden are constructed, occupied, tilled, and used, by all. Within the building, however, pots, hammocks, and weapons are definitely personal property.

The main article of food is the *mandioca*, which looks like a long and very stringy potato. In nature this plant contains a high percentage of cyanic acid. The natives eliminate this poison by natural evaporation and this is one of the wonders of ethnology. Normally a primitive tribe having eaten such a plant and having seen certain of its members die therefrom would establish a *tabu*. But these natives have gone beyond this

slender relation of cause and effect to a genuine conclusion. The people of the *malokas* are not, however, highly civilized. They lack the development of the Dyak or the American Indian. Many of them have nothing better than stone axes as tools.¹⁰

Further noteworthy examples of this culture may be found in Oceania and particularly in Borneo.

This great island is high and hilly in the center with forest vegetation, drained in all directions by jungle rivers. The climate is humid and regular, and rarely exceeds 85 degrees in the shade even in the interior. Rain is frequent and plentiful throughout the year and a luxurious soil supports many useful trees, hard woods, fruit, and rubber. The land contains considerable unexploited mineral wealth.

Leaving out such places as the Royal Dutch Shell port on the coast and considering only the true Bornean, we find that the huts of all Dyak tribes except the Punans are very similar in type and use, although they may vary in size, proportions, and materials. The house of the Kayans is as typical as any and may be taken as characteristic of all.

As among many primitive societies, each house accommodates many families. An average Bornean house provides for forty to fifty families or two to three hundred persons, and this may be as many as six hundred. Accordingly the Bornean *kampongs*¹¹ contain but few communal houses or even only one. The river is almost the only means of communication through the jungle. Consequently the *kampongs* lie along the river just as our towns and cities lie along the railroad or highway. Among the Dyaks the space fronting the river is kept clean and almost resembles a boulevard. Along it are four communal houses in pairs. Between the groups and farther back is one

¹⁰ One of the inconveniences of living in a *maloka* is the presence of vampire bats. These little animals are very voracious and can kill a man by sucking his blood. They prefer to return to a man they have already attacked and apparently are better able to smell him. The precaution taken by the natives is to put mats around the sides of the patient but not above him as the bats do not swoop down but fly in low circles near the floor until they smell their victim.

¹¹ From which perhaps comes our word "compound."

smaller house. Then the jungle begins immediately. On the river front is a crude jetty where the boats tie up during brief visits.

The buildings of the Kayans are rectangular and the ridge extends the whole length of the roof, which is covered with shingles of ironwood, a common building material. The framework of this roof is supported on poles at a height of twenty-five or thirty feet from the ground. A raised floor or platform is made up of cross-beams morticed to the poles, on which large

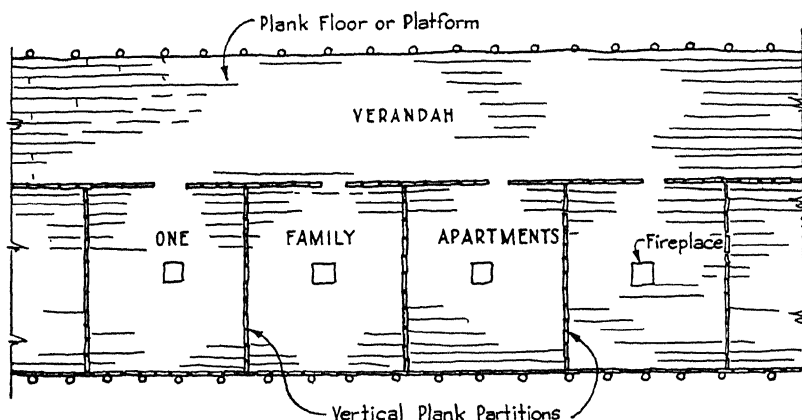


FIG. 12. PARTIAL PLAN, TYPICAL BORNEAN LONG-PUTIH

hardwood planks are laid. The eaves come down to a level halfway between the roof beams and the floor, leaving an interval of four to five feet which is open all along the river front. An average-sized house is six hundred feet long and thirty to sixty feet wide. This platform or floor is divided by a longitudinal wall made of planks set vertically and placed a little to the river side of the ridge, thus making a verandah towards the river and a closed hall away from it. The verandah is undivided but the closed portion has transverse walls at intervals of about twenty-five feet, thus forming a single row of large rooms all about equal in size and each serving as the private apartment of one family. Within such a room there are a number of partially or completely walled-off sleeping alcoves, and a central

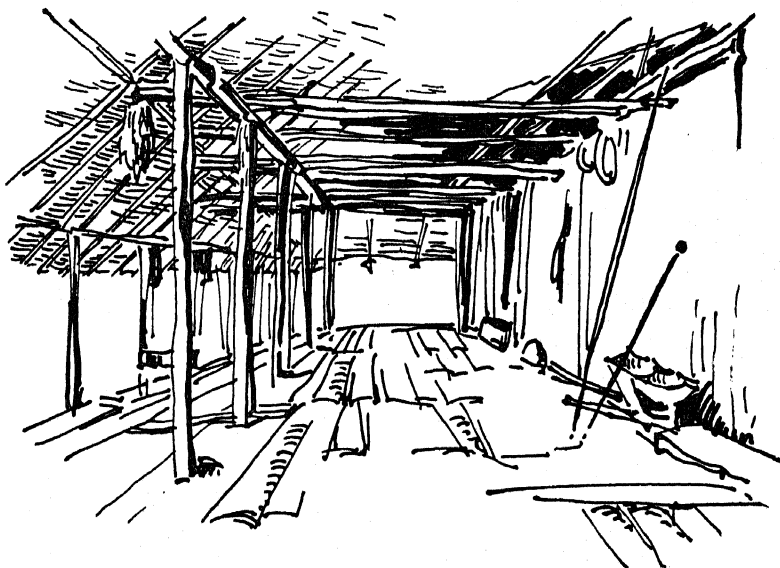


FIG. 13. BORNEAN LONG-PUTIH AND ITS VERANDAH

fireplace made of a slab of clay on a wooden framework. A square trapdoor in the roof is held open in fair weather by a prop and this opening affords light and air and permits the egress of smoke.

The verandah is almost more the village street than the space below on the ground. From it wooden doors lead to the rooms. Near the middle of the building is the apartment of the chief and opposite it a portion of the verandah is reserved for guests or formal meetings of the whole house. On this verandah also are raised platforms on which bachelors or male guests may sleep. Along the gallery at intervals of forty feet or so are fireplaces, in at least one of which a fire is always kept burning. Near the middle and over one of the fireplaces the heads are hung.¹²

The Dyaks believe in a form of animism. The characteristic head hunting is dying out under Dutch rule. The purpose of it was to secure the soul of the person killed as a servant in after life. Consequently the appearance of a number of heads outside the door "dispensed an aura of stability and benignity."¹³

The houses are reached by ladders, notched out of single logs, rising at an angle of 45 degrees. Several of these usually approach each verandah and from them a footway of logs runs to the water, because the domesticated pigs and goats occupy the space beneath the house and their milling about keeps the ground nearby in a perpetually muddy state.

On the verandah and ranging along the inner wall may be seen various household utensils, large mortars of wood used for husking the *padi*, winnowing trays, paddles, traps. Extra boats are kept under the house.

¹² Among other Dyaks the posts supporting the platform and house are rough-hewn tree trunks. The long verandah is the same as that of the Kayans. Bark is used for walls and doors while the lath of the floor is of bamboo strips. Rattan is used for tying the structure together. The verandah is used for cooking and most other household purposes while the separate rooms are divided into two sections, one as a sort of living room and the other for sleeping.

¹³ De Leeuw, Hendrik, "Cross Roads of the Java Sea" (Jonathan Cape and Harrison Smith, New York, 1931), p. 34.



FIG. 14. TELOK DJULO—BORNEO

A characteristic thing to be seen in the Dyak compounds is the *kapatong*, an upright pillar carved in human form and made of ironwood. These stand before the houses and are for the benefit of some dead person whom they represent and guard, and are analogous to the paintings on the inside of the Maori superior houses and the totem poles of the Yukon.

In Telok Djulo, an Ot-Danum *kampung* on the Barito River, a rather different type of house may be found (Fig. 14). The building is of one story set on about eight poles around the periphery of a rectangle. A frame is built on these poles forming a platform. A lattice studding of vertical and horizontal bars provides the wall structure with the verticals on the outside. Inside these are the horizontal members and inside these vertical thatch. The posts at the corners incline outwardly so that the cross section made by floor, walls, and roof is a pentagon.

All of the Bornean peoples pursue a mild agriculture and raise *padi* and a sort of potato analogous to the yam, from one or both of which they make flour. Every *kampung* has *padi* huts for storage of this staple food. The people use the blowpipe in hunting small animals. Fruits and nuts complete the diet except for two or three delicacies, among which may be numbered fried maggots taken from beneath the bark of trees, and pieces of water snake in a sour egg sauce.

They are a cleanly people and one authority states that the women bathe three times daily and the men even oftener. Like other primitive tribes, they are subject to and dread smallpox, and banana peels are hung at the *kampung* gate when this disease has broken out to warn off the unsuspecting traveler.

The population of Celebes is principally Malay. The Macassar tribes are well built and strong, brave, and like hunting. They pay little attention to agriculture although they have many domestic animals. The women know how to weave cotton cloth. The houses are made of wood and bamboo and, as diagonal bracing is not employed, they soon lean over from the wind to produce a picturesque effect if a precarious shelter.

In the center of Celebes live the Toradjas, once head hunters, a heathen people unconnected with any religion known in the East. Their dwellings are extraordinary affairs, following the general plan of the region but built on a framework of cross-piling and practically all roof (Fig. 15). At the bottom four



FIG. 15. TORADJA DWELLING—CELEBES

semi-flat stones are piled one on top of the other. Across these, two heavy logs are laid and above these two, equally heavy, at right angles. From this pile foundation four vertical logs extend to the floor, which is six feet or less from the ground. To the floor leads a fairly well-made set of six steps with two stringers and treads but no risers. The door is a small hole in the roof, which begins at the floor level. This roof is high and

pitched and unprovided with windows. The covering is of shingles or bark slabs and from each end of the ridge rise a pair of antlers or crooked horns.



FIG. 16. SUMATRAN VILLAGE

The men wear almost nothing, while the women wear clothes of bark which are seldom changed or cleansed. The homes are shaped like *praus* and it is not surprising that the same name applies to both boat and home interchangeably. The principal

cultural manifestation is an irrigation system made up of pipe lines of bamboo.

The houses of Sumatra add little to the picture of homes of the region. The Atchinese, one of the leading tribes of this section, used to bury a youth alive on the spot where a new home was to be built. This custom fortunately has ceased.

The roofs are often covered with leaves of *rumbia* or *nopah*. The houses, as in Borneo, are divided into three main compartments, a verandah for social purposes, a sleeping compartment, and a room serving as the kitchen. The roofs are often graceful, and the outsides are frequently decorated with fine carvings, sometimes colored. The Hindu influence is quite apparent in Sumatra.

The ordinary house is built on the customary stilts. There are often group houses although they are not so universal as in Borneo. The chief of the house occupies the room in the front right corner of the building, instead of the center as in Borneo. He is the lowest commander in an organization which places a village master and a district master above him. The *huta* or village is built on terraces and is surrounded by palisades of bamboo. The entrance to the palisade is through a small door, inside of which is a canal running all around the village.

The Minangkabaus of Sumatra are further interesting in that in them we find the only true matriarchate remaining in the world, with the possible exception of certain of the Basque peoples. A married man spends the night in the house of his bride's mother but in the daytime works for his mother. Thus the family at night contains several generations of the female side and the husbands of these women, but by day consists of brothers and sisters of various generations on the maternal side. One half of every house is kept for common use; the other half is divided into a number of rooms, one for each female member, her husband, and her smaller children.

Similar types of homes may be found in Fiji, Samoa, and various other islands of Oceania, and all are truly characteristic of the hoe stage of agricultural civilization.

CHAPTER III

The Herders

AGRICULTURAL CULTURE — THE FLOCK

SLIGHTLY subsequent to, but essentially parallel with, the development of hoe culture came the domestication of animals. This developed in two ways, one in which a few animals were kept by the man who tilled the soil; and the more characteristic, in which a flock of cattle or sheep or goats were herded by a family who relied entirely or almost entirely on the flock for sustenance. The latter culture is called pastoral.

The first characteristic of pastoral culture is that it is very akin to the big-game-hunting culture. In both cases large herds of useful animals have to find pasturage and in so doing move about the country from grazing land to grazing land. The difference lies in the fact that in the hunting culture the hunter follows the whim of the animal and the animal is not his property but his prey, while in the pastoral the shepherd directs the animals to what he deems to be good pasturage and since the animals are his he takes good care of them. Thus we find a new cultural influence in man, that of tenderness directed by interest.

Nomadic life, however, whether engendered by the hunt or the herd is much the same. The crook replaces the arrow. Care of the animal replaces killing it. Instead of eating the flesh, the shepherd lives on the milk of the animal, makes his clothes of its wool, often builds his shelter of the same material and even his fire from dung. Only when an animal is sick will he kill it and eat its flesh, using its hide for leather. Naturally with large

herds death is sufficiently frequent so that meat is a common article of diet.

The characteristic of nomadic pastoral life is its fierce individualism. Property, to be sure, is recognized but as a thing to be taken where possible. The disputes about mavericks and branding of our own western cattle days are no different from those constantly occurring among the pastoral peoples of Iran and Kashmir. Roving over the country as they do, herders have little regard for land boundaries and are constantly quarreling as to ownership. Living outdoors, usually on horses, they become physically fit and their constant quarrels and fights make them excellent combatants. Time and again in history nomadic peoples, temporarily banded together, have swooped down on sedentary agricultural peoples, who have had better lands but were softer, conquered them, become sedentary themselves, and succumbed to further nomadic invasions.

The basic religion of nomadism is a religion of the open spaces, not unlike that of the hunter in its ferocity, but modified with a certain amount of fertility worship due to the desire for increase of flocks. Moreover long nights on plains under the stars foster a certain cosmic attitude in nomadic pastoral religion that is seldom found elsewhere. The religion of night of the Syrian plains is clearly manifested in many Biblical passages but it is a softened and more peaceful religion than that normally engendered by pastoral culture.

The sharp individualism and the necessity for flexibility of movement has reduced polygamy among the nomads although it is recognized as an institution. Sharp individualism again resents having another man see one's wife so the custom of seclusion of women has arisen. The characteristic home is the tent, often well made for its environment, as in Kashmir and Mongolia, where the pantographic construction of the *yurt* makes it particularly suitable to withstand the severe winds which sweep those regions.

Political lines cannot be closely drawn because of the individualistic, almost resentful, unity of the family. Alliances are

of short standing. There are, to be sure, sheiks and leaders but they owe their titles and power to larger flocks principally and to hirelings of whose allegiance they never can be sure.

There are a number of contemporary pastoral civilizations but each has lost some of its prime characteristics. Perhaps the most typical are the Bedouins of Arabia and the inhabitants of Kashmir or even Mongolia, although the latter have found brigandage more profitable than camel-tending. The Berbers of North Africa have become somewhat sedentary and more communistic than is usual. The religion of nearly all of the nomads approaches or is Mohammedanism, which, of course, is more civilized than native pastoral religion; but it will be remembered in this connection that Mahomet himself was a product of this culture.

Perhaps the best example of modern adaptation to nomadic environment may be found among the tribes of Mongolia and Kashmir.

Although these regions are well separated one from the other, they have a similar physical geography and are both roamed over by wild nomadic Mongolian tribes, all of whom have developed the characteristic *yurt*. They accordingly will be considered together.

There are some sedentary peoples in the Vale of Kashmir although the culture is mostly pastoral. Each village has a mosque, usually consisting only of a single room open to the east and with the required prayer niche on the Mecca side. The houses of the village are built of boulders of field stone and mud bricks. These crude walls sustain as a ceiling mats of twigs and branches which serve as support for the flat mud roofs which shelter people and animals alike. Near each house is a cistern for storing water, which is dipped up with flat wooden scoops. The water for the cisterns is supplied from irrigating canals, which often have to be carried long distances. Corn mills are communally owned and operated.

But these sedentary villages are few and the *yurt* is the characteristic home of the civilization. It is an ingenious dwelling



FIG. 17. A MONGOLIAN YURT

which really affords a considerable degree of protection against the severe weather. It appears universally among the nomadic peoples of the Pamirs, in the Tian Shan mountains, and on the plains of Mongolia, and one of its advantages is that it resists the violent gales which often sweep these areas.

The *yurt* is circular with a diameter of twelve to twenty feet. The sides, about four feet high, consist of a series of pantographs of wood. To the top of these are fastened erect, curved poles, the upper ends of which are received by and fitted into a wooden ring of four-foot diameter. This ring forms the center of the roof and the smoke hole. Wind pressure serves only to anchor a *yurt* more firmly to the ground but it is sometimes further held down by suspending a rope from the wooden ring and tying a heavy stone to it.

Over the entire framework large pieces of heavy felt (*numdahs*) are fastened. A felt curtain is hung over the door. In severe weather a rather numerous gathering congregates inside and a roaring fire is made of yak- or camel-dung cakes. The fuel is piled in the center and surrounded with dry stunted brush. When the door is closed the heat generated is rather more than an American cares for.

The yak is the principal source of all elements of living in Kashmir as is the camel in Mongolia. His dung furnishes the fuel. His skin furnishes clothing and shelter. Yak milk is the chief staple of diet, boiled and heavy with cream. This is eaten with hard raisins, dry apricots, and apricot kernels. Cooking is done in a three-sided mud stove next the fire.

Modified types of nomadic pastoral existence of today may be observed throughout Northern Africa, particularly among the Berbers, the Touaregs, the Riffian tribes, and the troglodytic peoples.

The Berbers, who are the indigenous Libyan peoples of North Africa, practise most of the arts of civilization. They mine and work iron, lead, and copper, make olive oil and flour in mills, and even quarry millstone. Weaving, dyeing, tanning and dressing

of leather, the manufacture of oil and soap, are all highly developed. The Berber is moreover a keen trader.

With these people the village is the state, a village in which communism is very evident. Any man about to build a house can call upon his fellow townsmen to help. The houses are of untrimmed stones, often two stories high, built on high land and always defended by a stone wall or at least a hedge. The second story is not added until a son marries, and is for his occupancy. The home is surrounded by a garden or a small field of grain. In the Atlas Mountains the upper story is a rough verandah, the houses are built close together for warmth, and the residents live in vaults beneath them during the winter. Among the poorer Berbers the house may be a mere hut of turf or clay tiles with mortar of lime and clay or cow-dung. These have a roof of a single slope covered with reeds, straw, and stones. As in poor homes in the country almost the world over, the living room and the cattle stall are under the same roof.

Rich or poor, the Berbers wear home-woven cloth. They are rather careless Mohammedans. Their women are secluded but with less care than among Mohammedans of higher culture.

The people of the Rif, in Morocco, who have recently been so much in the public notice through their resistance to "peaceful penetration," are both sedentary and nomadic. They live in small villages not unlike those of the Berber. The home is square, in room-unit form, and built about a hollow square court. The building is made of crude stone masonry and has a roof of clay, thatch, or shingles. On one side of the courtyard is a low area for the cow, a middle area for family living, and a raised platform at the other end, on which the family sleeps. Fire is made in a rude hole surrounded by stones, usually opposite the door. Ordinarily there is no chimney, although sometimes a broken pot is set in the smoke hole. There is a wood loft over the cattle pit for storage. The door is hinged but has no latch or handle. Windows, if any, are square and shuttered. Occasionally, owing to Arab influence, there is a second story

reached from the outside by a permanent stair or a notched pole. In this second story only a very short man may stand upright. The floor is unsound and wobbly, being made on thin joists covered with peeled wands and overlaid with clay. As with the Berbers, neighbors are called in to build the house.

Among the Berber nomads, who are principally sheep and goat herders, the home is a tent. The covering is a fabric woven with *halfa* braids as warp and goat hair as weft. The cloth is rectangular, of greater length than width, held up by three poles arranged like the Greek letter π and held down at the sides by pegs. Each tent contains a cloth curtain dividing it into two rooms, the more secluded being occupied by the women when guests are present, though, on the whole, seclusion of women is being given up by the nomads.

The Sahara desert and surrounding region has a healthy climate, but its vegetation is too sparse to support life. None the less, villages have sprung up here and there near oases where meagre agriculture can be carried on and occupation found in connection with caravans.

One of the most important of the tribes dwelling on the fringes of the desert are the veiled Touaregs, mixed Berber and negroid, a fierce people and one of the chief problems of the French Colonial government.

Their culture is agricultural and pastoral. Some of their houses are of stone like the Berbers', some mere huts. But the majority resemble mole hills on the sands. A dozen slim poles and lath are made from acacia or palm-leaf stems and bent and laced to form a framework not unlike those of the Wichita Indians¹ but less well made. Grass mats and skins are thrown over this framework and tied down in disorderly fashion.

The sole furnishing of these small tentlike structures consists of a couch of branches built fifteen inches off the ground and occupying nearly the whole floor. On this the family sits and sleeps. There are a few primitive cooking utensils. Although

¹ See Chapter IV.

everything is full of sand the Touaregs are clean despite their slovenly building, the dry air of the desert undoubtedly helping them in this respect. They are very poor and their meagre diet is goat milk as a staple, with wheat and millet added. Occasionally they find dates and herbs. Their clothing is wretched



FIG. 18. A TOUAREG HUT

and their life a struggle against privation, exposure, and death; but pride makes them prefer this meagre lot to any improvement that the colonial administration can offer.

Another curious set of people living on the border line of existence are the troglodytes, who dwell in villages on the fringe of the desert or in such towns as Medenine in Southern Tunisia.

Perhaps the most characteristic village is Hadége in the Mat-matas. The only buildings above ground in this town are a mosque, a school, a market, and the home of the Caid. Under ground dwell two thousand people. Some of their homes are

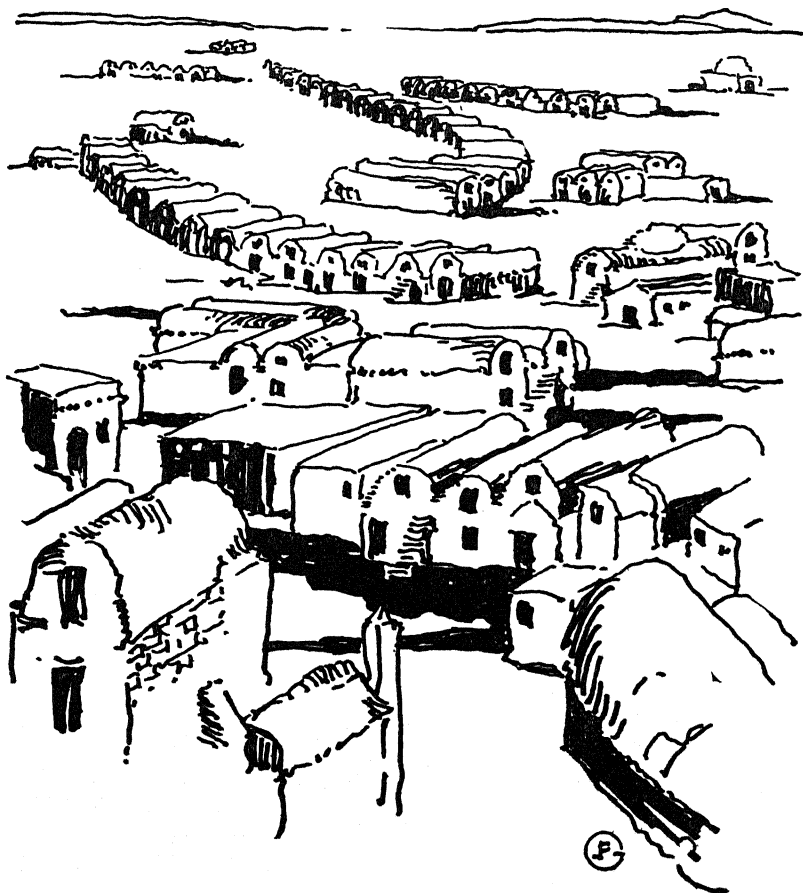


FIG. 19. MEDENINE, TUNISIA

mere hovels but some are quite large and clean. Through a doorway in the face of a hill one enters a long dark passageway. On either side of this corridor are stalls for animals. The hall leads to a central court at the bottom of which, in a sort of well, is a courtyard at least two stories high and open to the sky.

Around the yard are open cubicles which form the summer residence, the closed rooms being driven into the side of the hill behind these. Such doors as exist are made of rugs or woven screens of leaves. A second story is devoted to the family of the son. The troglodytes have developed a *bona fide* bathroom consisting of a half shell scooped out of the wall and an earth shelf on which the bather sits while water is poured over him. The water runs off in a groove in the shelf to a sump whence it is dipped out and carried away. All water and food has to be brought in to these curious low-grade homes. In the daytime the inhabitants drive their flocks out to pasture, returning them to the earth homes at night. The troglodyte comes very near to being a prehistoric man in his dwelling, but as upon all other natives of today some modifications have been imposed upon him by the rise of civilization in other sections.

Pastoral civilization develops its parasites. Perhaps the most extraordinary village in the Sahara and indeed one of the most unusual in the world is the little town of Fachi, set on an oasis. The handful of sedentary natives have no visible means of support and it is supposed that they are desert pirates. The town is a wonderful example of fortification.

On the outside there is a double line of ramparts with a broad dry moat between. One enters the town through a single narrow doorway and instantly descends some steps. The level of the town itself is seven to eight feet below the surrounding country. Every dwelling entrance has a fortified door similar to the town door, which is made of heavy palm planks, chained together and barred by a heavy wood plank and a stone used together as a brace. All the walls of the town are made of rock salt which has now become black and hard as concrete. The streets are a maze of alleys which twist and turn and never afford a clear view for more than twenty or thirty feet, sometimes no wider than a man but usually twice that. Bare earth settees appear in the wider streets. A low parapet of earth guards the house door or, rather, hatch, through which, stooping, one passes and im-

mediately goes down some more steps. Every room of the house communicates only with one in front and one behind, and has a palm plank door, which is always barred when the inhabitants are out. Inside these dens one sees a heap of dates, a mat, a skin of water hanging from the ceiling, but almost no other furnishings. Finally, after passing through many alleys, one reaches a center court, which is a fort filled with urns seven to nine feet high, some with steps carved in their sides, which are used to store dates and grain against siege. Here also is a deep well for water.

The roofs of the houses are flat and on them is placed the town refuse, which rapidly dries out in the hot and dry sun. The fact that it never rains makes the low levels of streets and houses possible.

Within these hovels the villainous looking inhabitants with soiled clothing live furtively and when a stranger passes through they give him a glance and hurry on. Mr. Buchanan's guide² admitted casually that he himself had killed five men, a number which did not seem to him extraordinary.

The Bedouin Arabs are also essentially in this stage of culture but are sufficiently more civilized to warrant treatment in Part III of this volume.

² Buchanan, Angus, "Sahara" (D. Appleton & Company, New York, 1926), p. 107.

CHAPTER IV

Homes of the American Indians

ALL the Indians of North America lived or live in various stages of the cultures already described but have unique characteristics, and as we have said in the Introduction are deemed of sufficient interest to the American reader to warrant a separate and rather complete treatment. Under this heading we shall group the dwellings of the early civilized peoples of South and Central America, the Indians of North America, whose homes are excellent examples of adaptation to environment, and the Eskimos. The term "American Indian" includes among ethnologists the ancient cultures of the Inca and the Maya. Although both of these reached a very high level, we have few certain facts concerning their homes.

INCAS

The aristocratic Inca government worked through a unit known as the *ayllus*, a group which owned land collectively and distributed the fruits thereof among the individual household heads. Agriculture was thus controlled after a communistic fashion. The food and drink of these people was simple: llama meat, maize, and potatoes.

So far as we can tell from the few remains, the houses of the common people were very like those of the modern peasantry of Peru, rectangular windowless structures with thatched roofs, containing not more than three rooms and usually but one. The floors were of trodden earth. Niches built in the walls served as

cupboards. If there chanced to be a window it had no sort of closure. There were no chimneys.

The niches are perhaps the most characteristic thing in the Inca house. Usually one foot wide and two high, they served as closet, wardrobe, shelf, and table. They were arranged symmetrically and afforded a break in the dullness of the masonry walls. Above and between many of them round or square stones projected which may have been used to support an upper story or more likely as hooks for ropes, ponchos, and the like. Some of the niches were lined with such beautiful stone work as to require no plaster but in general some form of mud plastering was probably used.

The lower-class dwellings of the coast instead of being made of stone like those of the mountains were of sun-dried brick and were possibly better ventilated as the climate was more favorable. There is no reason to suppose that the conglomeration of pigs, goats, dogs, fleas, and vermin characteristic of the modern lower-class Peruvian dwelling was absent in the time of the Inca. Nor is the modern method of building a modest house in Cuzco very different from that prevailing in Incaic times. A sufficient number of adobe bricks are dried in the sun, of a size as large as one workman can conveniently carry, and these are then laid dry and plastered over with adobe.

The Incas, despite the apparent poverty of their dwelling construction, were great engineers, as is evidenced by their marvelous suspension bridges of aloë rope and the accuracy of their masonry. Consequently the palaces, upon which more effort was spent, were elaborate and impressive. Their riches were fabulous. According to Garcilaso,¹ "The Inca usually sat on a stool of solid gold . . . all the cups . . . were of gold and silver; . . .

"There was also great store of new clothing, both for wear-

¹ Garcilaso de la Vega, *El Inca*. (Born in Cuzco, 1539; died in Spain, 1616.) The quotation is from the Markham translation of his famous Book, "The First Part of the Royal Commentaries of the Yncas," Pt. I, Bk. VI, Ch. i., Vol. II, pp. 100-101, and was taken by the author of this work from Means, Philip Ainsworth, "Ancient Civilizations of the Andes" (Charles Scribner's Sons, New York, 1931), p. 320.

ing and for the bed, for the Inca never put on the same dress twice, but gave it to one of his relations. All his bed clothes were woollen, woven from the wool of the vicuñas . . . blankets were placed both under and over. They did not use mattresses, because they did not want them. . . . They seemed to be too great a luxury, and too artificial. . . .

"They did not have tapestry for the walls, because they were covered with gold and silver."

Each Inca abandoned his father's house and built one for himself. The contrast between the house of a peasant and that of the Inca was rather one of size and furnishings than of grandeur. "The breezes of heaven could play on the spines of all of them as they ate their suppers."²

MAYAS

Of the Mayan home we know even less. Despite the marvel of Mayan ornament and decoration, Mayan engineering was not remarkable and in no case to be compared with that of the Inca. The Maya was ignorant of the principles of the true arch. He lacked iron tools; and, since he used stone almost exclusively, the stones were dressed either by stone or copper at an enormous labor cost. The fact that wood does not last long in the tropics prevents our knowing much of wooden floor and roof construction, but the evidence is that there was not much use of the flat beam in the Mayan area. Instead a false arch was corbelled inwards until the opening could be covered with a heavy flat slab. Additional weight was then imposed by a thick layer of masonry and also by the elaborate and traditional roof comb to keep the key slab firm. The walls had therefore to be very thick to support the heavy roof and usually consisted of a core of rubble faced on both sides by blocks carefully dressed on their outside.³ The Mayas did make some effort to develop columns which, being derived as parts of a wall section, not, as in Europe, from trees, were rectangular rather than round in section. Despite efforts at columnar support, Mayan rooms were small

² *Op. cit.*, p. 323.

³ Not unlike Norman cathedral construction.

in relation to the outside dimensions of the structure. The method of building did not permit two-story structures, although some of the Mayan buildings appear to be of more than one story. Examination of such buildings indicates that the lower story was filled in with rubble and a new one-story building built on top. This was apparently done when the buildings showed signs of decay or when there was some desire to make it more prominent.

When the Spanish Conquistadores came to the Mayan Mexico City they razed it to the ground. Bernal Diaz, who was present, says of the palaces "how well-built they were, of beautiful stone-work and cedar wood and the wood of other sweet-scented trees; with great rooms and courts, wonderful to behold, covered with awnings of cotton cloth." ⁴ These buildings of the chiefs were apparently spacious and built on terraces of stone, with flat and battlemented roofs, an enclosed court, a garden.

The houses of the humbler people in Mexico City were probably built with walls of sun-dried brick, wood, or reeds, and roofed with thatch. The rural Mayas generally dwelt in scattered plantations in huts of wood with high-pitched roofs of thatch very like those of their modern descendants.

NORTH AMERICAN INDIANS

Our classification of North American Indians is arbitrary. At least fifty-eight separate linguistic stocks have been traced and ethnologists customarily divide them into twelve cultures. As simplification is necessary in a work of this scope we will reduce the Indian cultures to four, besides the Eskimos:

(A) The Indians of the Atlantic seaboard, particularly of the North East, principally Algonkian in stock, including the Iroquois and the New England Indians, a culture primarily village and agricultural with some hunting.

(B) The Indians of the Plains, including those properly of

⁴ The book by Bernal Diaz, "The Conquest of New Spain," is frequently quoted by the author from whom this source is drawn, Joyce, Thomas Athol, "Maya and Mexican Art" (*The Studio*, Ltd., London, 1927), p. 16.

the plateaus and also those of the Mississippi. Their culture is characterized by hunting, nomadism, the *tipi*.

- (C) The Indians of the Pueblos, a village and agricultural group with a high degree of urbanization and a distinct defense tradition.
- (D) The Indians of Puget Sound, with a fishing culture, using the boat.

Before treating these divisions, however, we may note certain general characteristics of the Indian. Perhaps at no time in the history of mankind has a purer communism been practised than among the North American Indians. The chieftain existed by virtue of ability and his home was seldom in any way distinguishable from that of the commoner. There was an essential equality for there was little personal property. The lands were usually tilled in common. The buffalo hunt was organized on a large scale and the beater participated with the killer in the game. In the pueblo the room provision was equable. In the Iroquois long house we find the same equality prevailing. We have seen this communism on the Amazon and in Borneo but probably nowhere so completely and so well dovetailed with a fairly high civilization.

For the Indian civilization was high. There was a well-developed sense of rights and duties meticulously carried out without the burden of a written law. There was a definite marriage relation, sometimes monogamous, sometimes not. It is true that the woman was inferior and occupied a menial position but her rights were defined and respected. There was a formalized religion based on a pure nature worship, and a traditional art of no mean nature. In various places we find ceramic industry, basketry, silver work, copper work, weaving, each at a high stage of development and usually crystallized into the conventional which always represents a cultural advance over the purely pictorial. The Indian was honest according to his own ethics. It is unfortunate that the early Anglo-American relations with the Indians have developed the "savage" tradition, for the Indian was anything but a savage.

With these general considerations in mind we may now look for a moment at each of the four salient cultural developments. The one with which the English colonists first came in contact was perhaps the lowest.

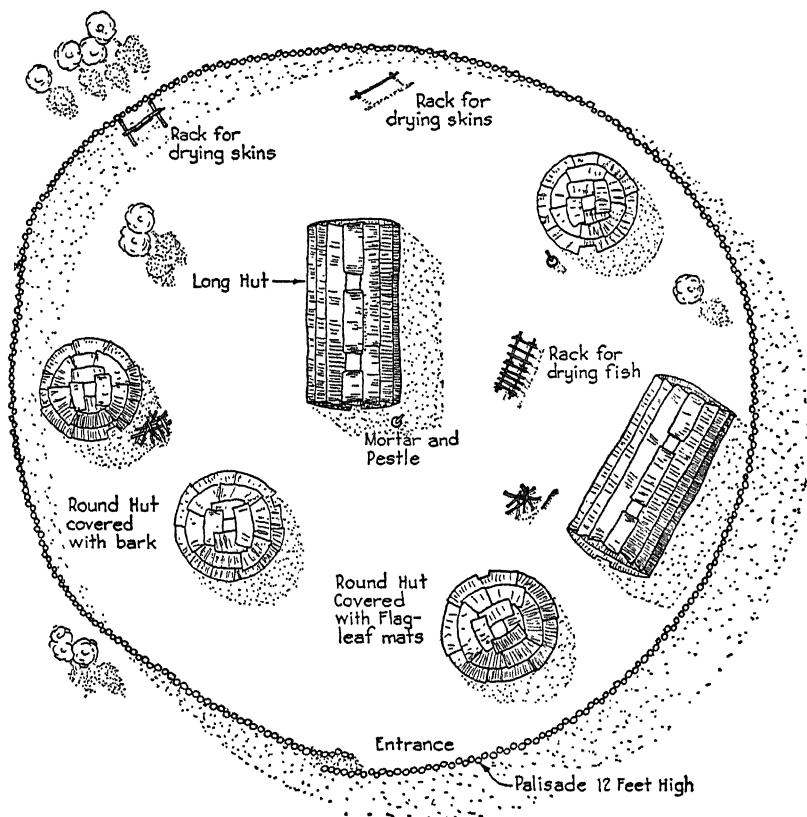
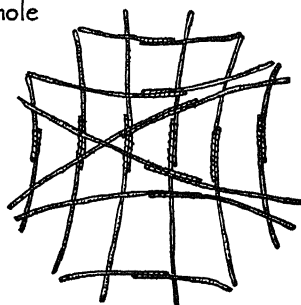
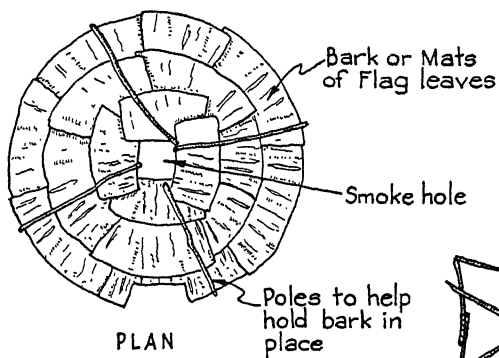


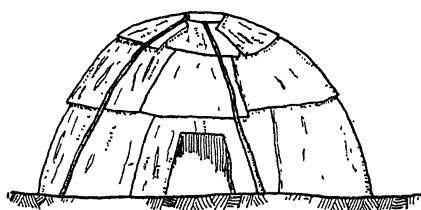
FIG. 20. PLAN, NEW ENGLAND PALISADED VILLAGE
After a model in the Peabody Museum of Harvard University

NEW ENGLAND INDIANS

The New England Indians cowered under the long shadow of the powerful, rapacious, and better-developed Iroquois. The New England Indian was primarily a farmer and peaceful. The danger of Iroquois raids led him to build in villages usually surrounded by a palisade for defense. These palisades were ten

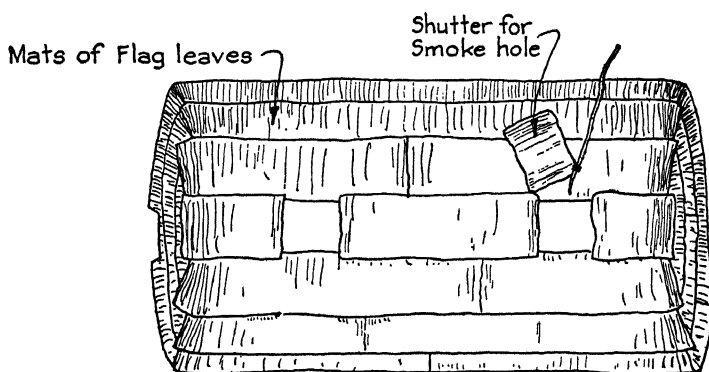


PLAN VIEW OF FRAME



ELEVATION

ROUND HUT



PLAN OF LONG HUT

FIG. 21. TYPICAL NEW ENGLAND INDIAN HUTS

to twelve feet high, made of logs, and circular in form with an overlapping entrance (Fig. 20).

The houses within the palisade were ordinarily round in plan, ten to sixteen feet in diameter, six to eight feet high, and occupied by one or two families. Small poles were set in the ground two or three feet apart and several arches were made by bending and lashing together two opposite poles. The remaining poles were bent over and joined to the arches. Mats and coverings of deerskin were laid over this frame. There was an opening in the center of the roof to permit the escape of smoke from the central fire.

Occasionally also the New England Indians built long houses on a rectangular base with a set of barrel vaults formed by bending opposite poles, the principles of construction being identical with those of the round house except that the roof was a barrel vault in form instead of a dome.

Curiously enough, the wigwam which is associated in most people's minds with the Indian house was not at all typical of New England but found in the *tipi* form on the plains. The Penobscot Indians, however, whose materials were more adaptable to the wigwam type, did develop the conical structure of that name.

These buildings were bark shelters ten feet high and ten feet in diameter. The framework consisted of two sets of poles, one inside and one out. The inner poles, nine in number, were twelve feet long and about four inches in diameter at the butt. Four of these were tied together two feet from the tips and laid in pairs (see Fig. 22). A rope of cedar bark or thong was then bound around the poles twice and tied with a common knot. Poles 1, 2, 3, and 4 were then stood up and their butts spread apart. Poles 5 and 6 formed the door posts and the grounds for the lintel. Around the inner side of these poles seven and one-half feet from the ground a hoop of flexible wood was fastened for additional strength and also to support sticks laid across the wigwam upon which clothing and food were spread to dry.

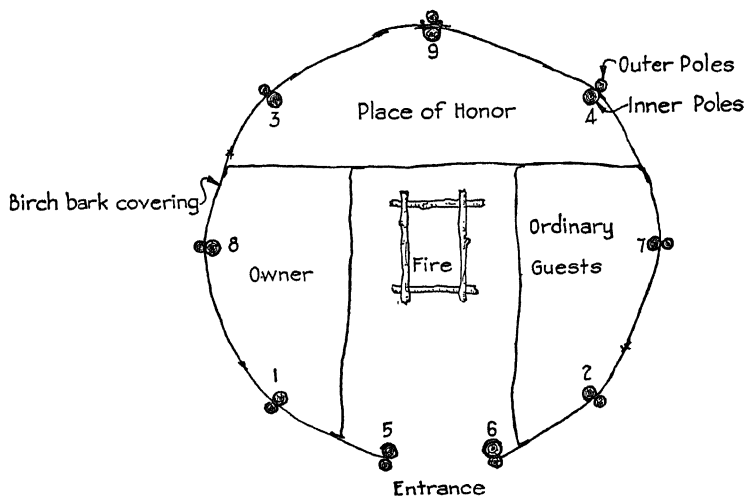
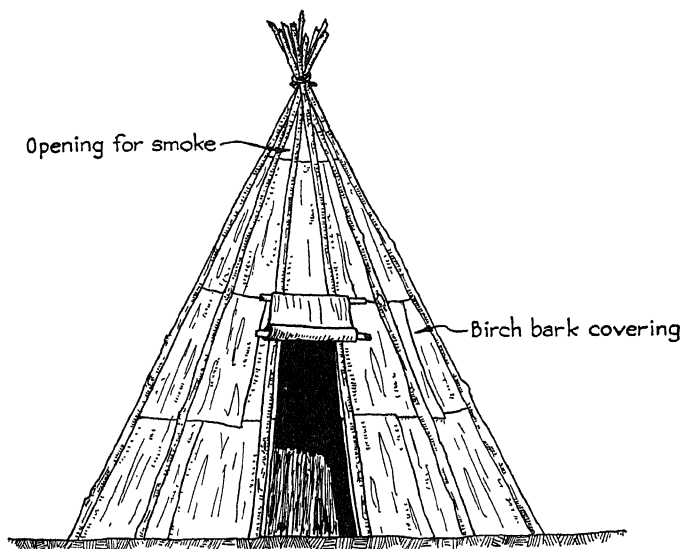


FIG. 22. PENOBSCOT BARK TIPI

The coverings of this framework were pieces of birchbark three and one-half feet wide and as long as permitted by the diameter of the tree. They were lapped and sewn together with split spruce root. There were three tiers of bark in the height, the two lower tiers being in two sections to facilitate building. All seams were vertical. The end strip of the lower tier was turned around a pole and stretched to the next pole where it was fastened through the top edge with spruce root strings, thrust back around the pole and tied. This root never passed through the bark a second time. After the bark was laid outside, poles, corresponding in position to the inside poles, were driven in the ground and lashed to the frame, serving to hold the bark on. The wigwam had the usual smoke hole at the top. The door was of a tanned skin fastened at its upper and lower ends to a pole. The upper pole was then tied to the lintel so the door could be rolled up and down. In bad weather it was fastened down with a rope and stake.

The interior furnishings of wigwam or house consisted of beds of spruce boughs and tanned skins. An outdoor fireplace was used in hot weather.

The Penobscots also built square lodges with four or five layers of logs extending to a height of three or four feet, the crevices caulked with moss, and the walls banked outside with moss and leaves, the remainder of the lodge being like the wigwam in construction.

Each tribe among the New England Indians had a well-defined area which served for hunting, farming, and fishing. Their village culture was sedentary but the people had to move from the hunting to the farming grounds and at least in the farming season might be semi-nomadic, often erecting rude shelters very near the grounds they were then engaged in tilling. The chief crops were maize and potatoes, which, with nuts, berries, game, and fish, formed the chief articles of diet of these tribes.

IROQUOIS

The tribes of the Iroquois, who occupied and controlled New York State and who were a menace to their neighbors on all sides, represented a higher degree of communal organization than was found in New England. The climate, soil, and vegetation of the Iroquois territory were, if anything, more favorable to agriculture than those of New England, and game was equally plentiful. Perhaps the margin of fertility afforded the Iroquois gave them spare time and perhaps spare time led them to military exploit.

Their cooperation is shown in the characteristic Long House, which by virtue of its size required joint effort in building. Moreover, because it accommodated many families living in close proximity and essential unity, it undoubtedly cemented the relations within the tribes and increased their military power.

The leading tribes of the Iroquois (Mohawks, Onondagas, Oneidas, Senecas, Cayugas) all had permanent villages of long houses, surrounded by palisades, beyond which lay the corn fields. Trohattan, the largest Seneca village, contained 120 houses, each caring for twelve to fourteen families.

The average long house might be sixty feet by eighteen feet although some were one hundred twenty-five feet long, twenty-five feet wide, and twenty feet high. Occasionally houses twenty feet long were built for single families but this was rare. The house frame consisted of a set of vertical logs with forked tops, set in a rectangle at about five-foot centers, with their tops ten feet above the ground. These were sometimes braced horizontally by lashing a set of poles at mid-height or near the fork. From the forks extended oppositely posed flexible poles which were lashed together either to form the barrel shape we have already noted among the New England Indians or, more frequently, a gable roof without a ridgepole.

This framework was covered with bark shingles overlapped in a suitable manner. The shingles were made by killing an elm

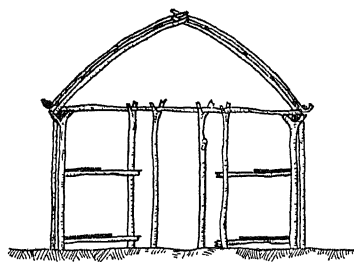
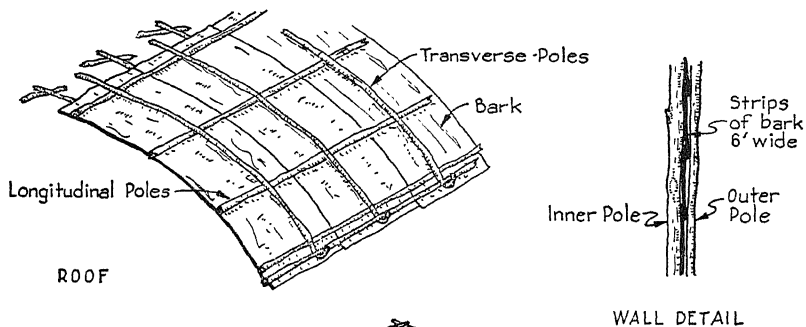
or an ash tree by girdling when the sap was running. Sections of the bark, cut six feet long, had their rough surface removed and, carefully piled against warping, were allowed to dry. The shingles when finished were lashed to the frame, the grain of the bark being parallel to the ground on the sides and parallel to the rafters on the roof. A second set of outside poles were then lashed to the bark exactly as we have noted in the case of the Penobscot wigwam. The roof was further held down by a set of longitudinal poles, a set of transverse poles, and longitudinal poles at the eaves resting in hooks in the transverse ones.

The long house had no windows. At each end there was a door of bark boards with wooden hinges or of skins. In the roof were a series of square smoke holes which also served as windows and might be covered in inclement weather by bark shutters.

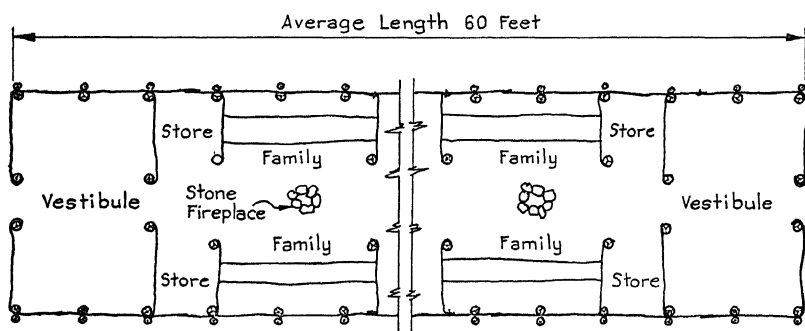
At each end of the building was a vestibule ten to fifteen feet long extending across the house. This was used as a storage room or meeting place and in summer the bark sides might be removed, leaving porches. Behind the vestibules were small storage rooms. The rest of the space was divided into booths either side of a central alleyway. The six-foot booths formed a storage space for each family, the thirteen-foot ones the living quarters. A very large family might be allotted two booths and two living spaces. In each booth for living there was a platform five feet above the ground and not quite so wide as a lower platform one foot above the ground. On the platforms were reed mats and animal skins for beds. The food was generally kept in barrels but corn was hung from the rafters in braids.

Along the central passage were a series of fire pits, each for the use of the two families directly opposite it on the two sides of the house. The quarters were separated one from the other by seven-foot bark partitions. In some cases the living quarters had narrower platforms on three sides instead of the one platform previously described.

Any one who has ever lived in a modern apartment house with its disturbances and vexations due to close proximity with one's



SECTION



PLAN

FIG. 23. IROQUOIS LONG HOUSE

neighbors must admire the tolerance and decency which must have been possessed by the Iroquois. The fact that a long house was in general occupied by related families may or may not have further promoted concord.

PLAINS INDIANS

Throughout the western areas the Indians were of very different type from those hitherto discussed. On the arid plains the bison roamed in vast herds. It was perfectly natural that the typical culture of the plains should have been of the hunt. The house of the nomad must be movable, hence we find here the fully developed *tipi*. The Indian life of the plains, then, is characterized by the *tipi*, the horse, the bow and arrow, the javelin.

To the casual eye, all *tipis* are alike, but actually there were two types depending upon whether the skeleton formation was of three poles or four. The four-pole type we have already seen in one form in the wigwam of the Penobscots. It was used on the plains by the Crows, Blackfeet, Sarsi, Utes, Shoshones, and Comanches. While the Crows prided themselves on the appearance of the *tipi* and took great care in its erection, the four-pole type had some serious limitations. The arrangement of poles at the bottom was relatively insignificant; but at the crossing, in the case of four-pole types, the subsidiary poles could not intersect at the same level as the main poles, so there was a double crossing. If a *tipi* had been set up as a perfect cone the smoke hole would have centered at the crossing of the poles and could not have been closed in wet weather. Consequently all *tipis* were tilted and the smoke hole extended down the more slanting or front side. Inasmuch as with the four-pole type the subsidiary intersection was at a different level from the main one, the smoke hole was perforce longer than that of the three-pole type and less tilt was given the *tipi*.

The poles of the Crow *tipi* were carefully made. They were chosen as to size, the bark and some wood was stripped away, and they were allowed to season. In place the poles were con-

siderably longer than required and their projection beyond the *tipi* accorded with a Crow esthetic ideal, which was further carried out by common and often elaborately painted decoration of the hides or canvas used to cover the poles. The general construction of the *tipi* has been sufficiently indicated in the dis-



FIG. 24. CROW TIPI

cussion of the wigwam but it may be noted that the four-pole type of the Crows was not sound structurally and had to be guyed with rope if the halt were for more than one night or if that night were windy.

Among the Blackfeet, who also used four poles, there were many traditions. The lodge must consist of an even number of skins, from the hides of the buffalo cow only. Since a lodge in

constant use did not last more than a year, the customary time for making was in the spring. The covering of the smoke hole required great skill in making. The Blackfoot believed that if it were sewed by a jealous or quarrelsome woman the lodge would always be smoky whether or not there was wind; so a good-natured woman was always chosen for this task. If, notwithstanding, the lodge turned out smoky, it was customary to shoot an arrow up into the smoke hole, trying to hit the poles where they came together. An interesting side light on trademark laws is that the decoration used by a Blackfoot on his *tipi* was his special property and could be used only by him unless he sold the right to another.

The three-pole *tipi* differed from the four-pole only in original structure. It was better looking and more stable but its other advantages or disadvantages are too subtle to need consideration here. It was used among others by the Cheyennes, Arapahoes, Teton, Sioux, Assiniboines, Kiowas, Crees, and Pawnees.

In early days the Indians hunted the buffalo by building large fires at three sides of a quadrangle in which the quarry were grazing and thus forcing them to stampede through the fourth side where the pedestrian hunters lay in wait with arrows and spears. When the Spanish occupation of Mexico brought the horse to the plains this method was abandoned in favor of a true chase, in which a whole tribe of fierce riders rode into the herd and sank their spears into the game at close range.

The bison was migratory and it was necessary for the tribes to follow the game. The *tipi* therefore was adapted to be quickly struck and erected and to be readily portable. The other supplies of the home were few: hunting weapons, cooking utensils, skins for beds. The covering of the *tipi* had to be kept within certain size limits; and if larger skins were required to span the poles they were split and then fastened up the front with skewers, or, after the advent of traders, with old Hudson Bay buttons.

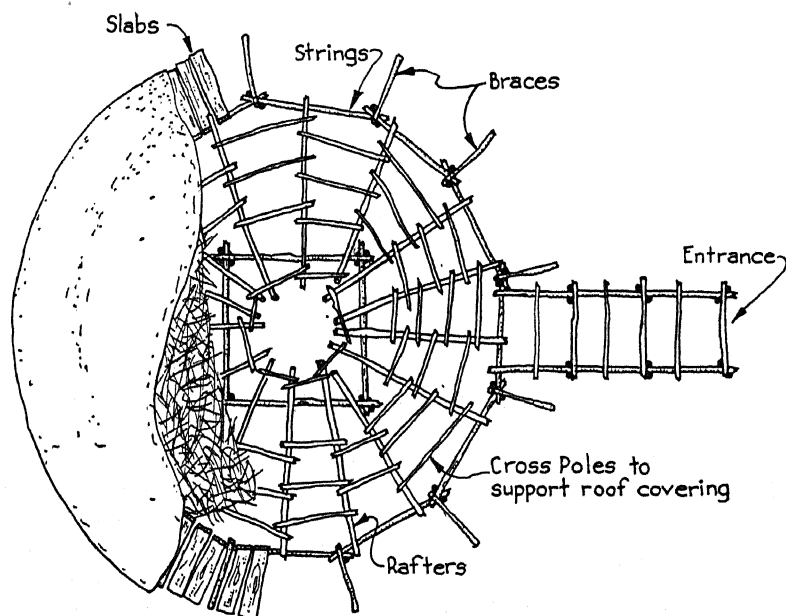
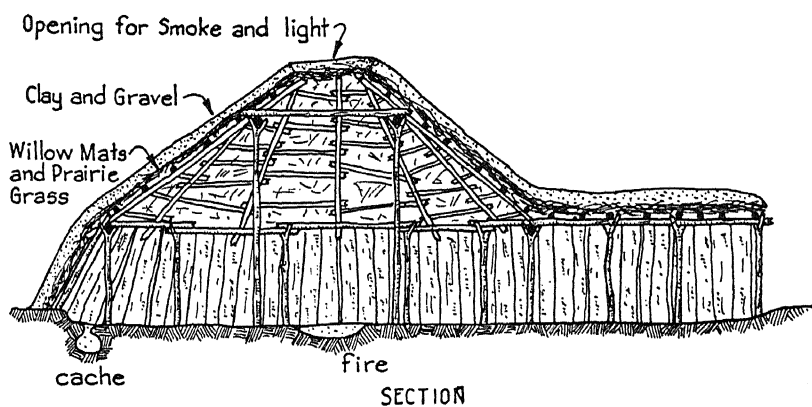
There were a few plains tribes which developed a sort of

agriculture and lived in permanent dwellings. These were principally to be found along the Missouri or Mississippi River basins and their houses were of two kinds of materials, although similar in effect.

The Mandans, who usually dwelt on bluffs facing the Missouri, built their houses of earth. Twelve wood posts six inches in diameter were set on the circumference of a forty-foot circle. These posts extended to a height of five feet. String pieces were set in crotches or forks at the top of the posts, forming a polygon. Against the posts an equal number of braces were sunk in the ground at a distance of about four feet outside the polygon and, sloping inward, were supported on the stringers. Slabs of wood were then set against the stringers between and at the same angle as the braces, thus forming a wooden wall (Fig. 25). Four round posts were set in the center, defining the corners of a ten-foot square, and rising to a height of ten to fifteen feet. Stringers resting in the forks of these supported a second set of rafters spanning from the outer stringers. Poles about four inches in diameter were laid on the rafters near enough together to support the earth covering. The poles were covered with willow matting and then prairie grass. Up to this point the Mandan house was not unlike the huts built today by various African tribes. However, the grass was now covered with clay and gravel, leaving a four-foot opening in the center as a smoke hole and window.

The entrance to one of these Mandan houses was not unlike that of the Eskimos, a passage five feet wide, six feet high, and twelve feet long, constructed with split timbers roofed with poles and covered with earth. At both ends of the passage were buffalo-robe doors.

Within the house there were apartments separated from each other by screens of willow or skins suspended from the rafters. Each apartment was shaped like a slice of pie open at the apex (in the direction of the central fire). Such a house would accommodate from five to six families totaling thirty to forty persons.



PLAN VIEW OF FRAMING

FIG. 25. MANDAN HUT

Like the houses of the Mandans were the grass houses of the Wichita, who occupied Arkansas, Western Louisiana, and Eastern Texas. A circle fifteen to forty feet in diameter was drawn on the ground. Eight to sixteen forked cedar logs twelve to fifteen feet high were set upright on the circumference. Between them spanned beams which were tied with slippery elm bark. Outside of the first circle at a distance of about five feet a second set of slender cedar poles fifty to seventy-five feet long were placed diagonally in the ground, leaned over the beams, and cantilevered to a peak or arched and tied together at the center. Rows of slim peeled willow wands were tied to these ribs spanning them on two-foot centers (Fig. 26). Bunches of long coarse grass were tied to these horizontal wands in overlapping layers beginning at the bottom. A second series of horizontal ribs was laid and tied on top of the thatch. At each crossing of poles an ornamental tuft of grass was placed and the top was finished with a peak of tightly bound bunches three feet high. The similarity to African construction is apparent.

The entrances were four, facing the points of the compass, two feet wide and from three and a half to five feet high. The eastern door was used in the morning, the western in the afternoon, the others only during certain ceremonies. Doors might be closed with panels made by tying bundles of grass to willow frames. The smoke from the central fireplace as usual escaped through a smoke hole at the top, opening always to the east of the peak. Again and as usual there were no windows.

A shallow excavation in the center was dug for the fire, which was never allowed to go out. Around the walls of the cabin were beds three to four feet wide and platforms two to three feet from the ground made of the useful willow. On the willow springs were rush mats or skins. In most houses there were six beds but there might be twelve or more. Each berth was provided with curtains separating it from the others and served one family.⁵

A Mandan or Wichita village consisted of seventy to eighty such dwellings. The people were peaceful and agricultural al-

⁵ There were occasional single houses but they were the exception.

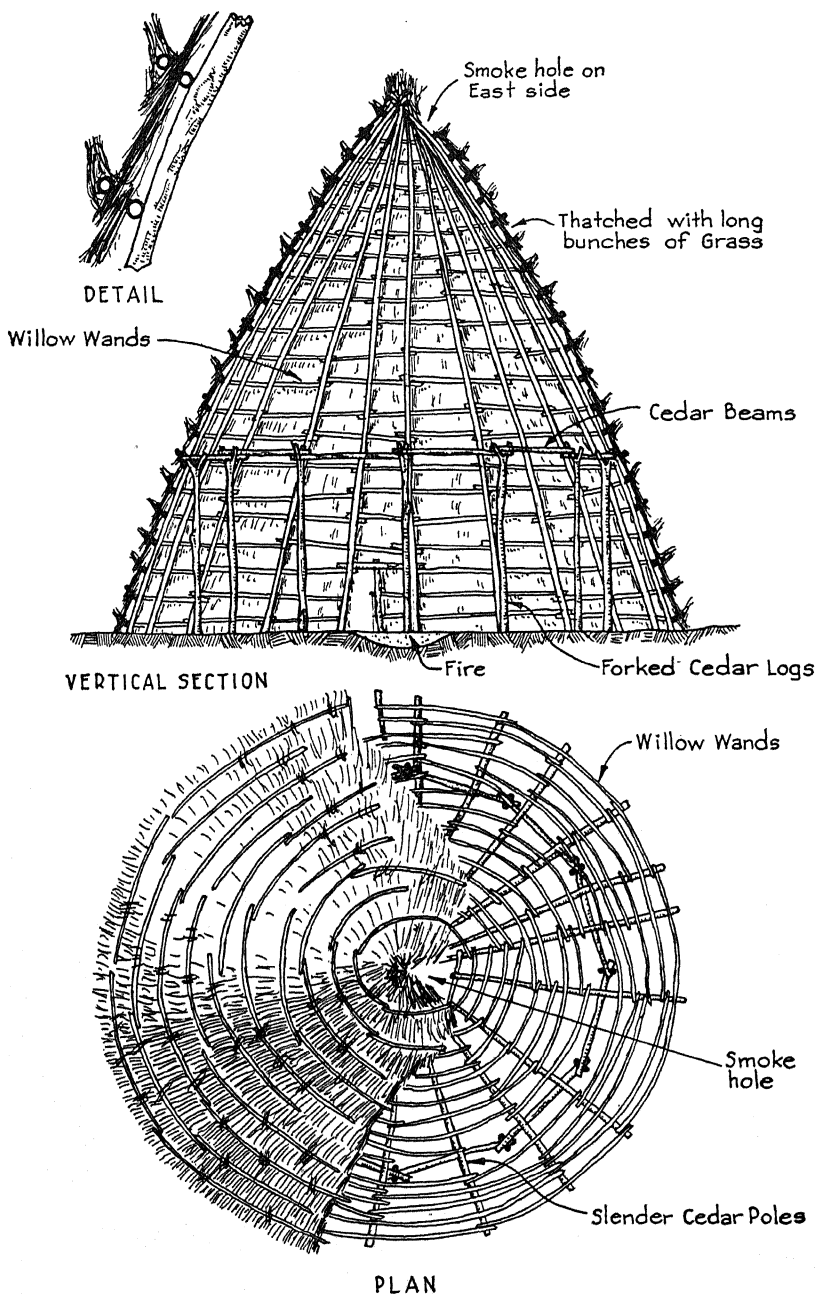


FIG. 26. WICHITA GRASS HOUSE

though not reputed to be very proficient or thrifty. Yet their house construction required fully as much skill and work as any Indian building.

PUEBLO INDIANS

The communal spirit which we have found among the Iroquois was typical of the Indians of the Southwest, who dwelt in pueblos. Pueblo construction comes the nearest to apartment-house construction of anything found in primitive society. These apartments were strictly co-operative.

Perhaps the early pueblos were accidental and consisted merely of caves dug in soft sandstone or tufa cliffs. A cliff near a tillable piece of ground might naturally attract many families by its convenience. Moreover, the tribes of the pueblos were by no means war-like and sought safety in numbers.

Again it may be that these timid tribes built their homes of adobe or stone on the top of a mesa whence the approach of an enemy could early be descried and which was defended with ease. Later, when the increasing population had occupied all of the area of the mesa, second and third stories may have been added. Later pueblos built off the mesa, such as Pueblo Bonito, may have had numerous stories because of tradition or to bring the fortified village within a narrower and more defensible compass.

At any rate, throughout the Southwest we find pueblos of adobe brick, cobble stone, and adobe mortar, and later of sandstone and adobe mortar. Across the walls cedar beams a foot in diameter were laid from wall to wall. Small poles were then laid transversely and close together on the beams. Slips of cedar or cedar bark placed on the poles formed support for a three- or four-inch coat of adobe which at once furnished the ceiling of the apartment below and the floor of the one above. Each upper story was set back from the one next lower, leaving a platform reached by ladders which could be drawn up when defense was necessary. Often the first floor of the pueblo was of solid construction, serving merely as a platform so that the

entire population was well off the ground in case of attack. Again, as passage from floor to floor would be precarious during attack, there were frequently holes in the floors within doors through which rude ladders permitted passage. The projecting end of a ladder and of the cedar floor beams is very characteristic of any pueblo.

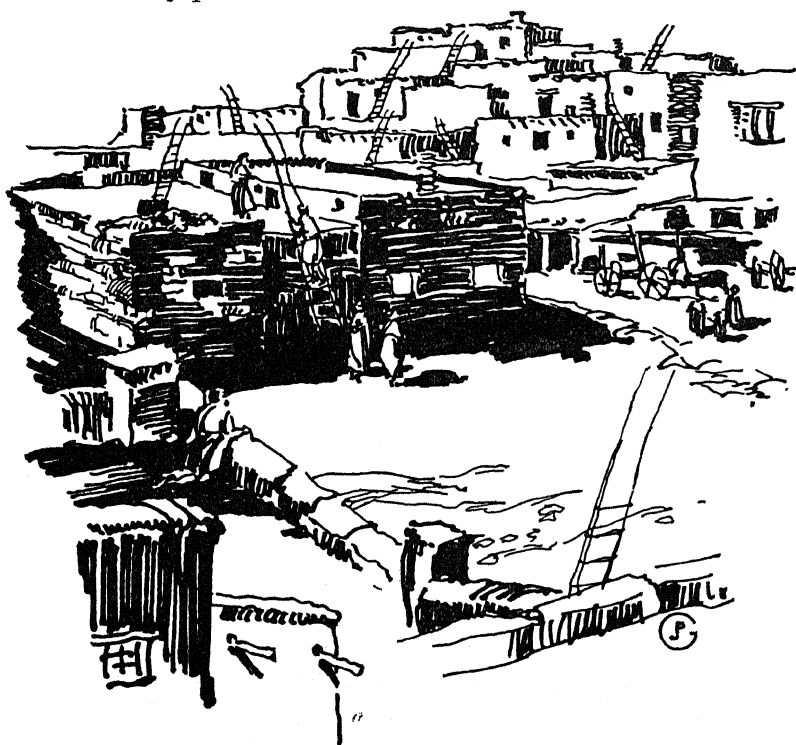


FIG. 27. CHARACTERISTIC MODERN PUEBLO

The pueblos grew as the population increased. At birth a male child was often provided with a room which he was later to occupy with his wife, although this was more frequently deferred until the puberty rites. Within the pueblo there were large storage spaces for communal grain and water supplies in case of siege.

None of the houses of these districts have fireplaces or chimneys, so it seems that little cooking was done in them. Rooms

usually communicate vertically, not laterally, except by means of terraces. The average suite of rooms was two, one in front of the other, extending back from the platform.

Some of the pueblos were of remarkable size. The pueblo of Hungo Pavie is one of the smallest of a series and yet its main buildings are three hundred feet long and its wings each one hundred forty-four feet, which is greater than any building yet discovered in Yucatan or Central America. This pueblo is

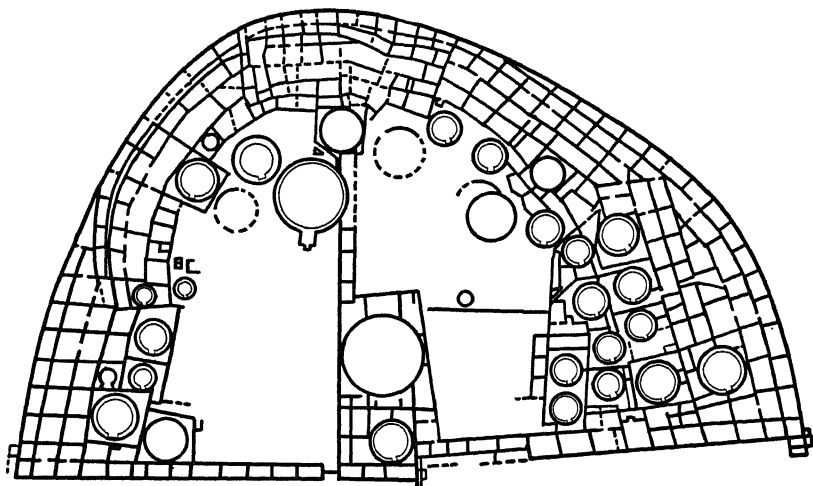


FIG. 28. PLAN, PUEBLO BONITO

three stories high and has seventy-two apartments on the first floor, forty-eight on the second, and twenty-four on the third. The entire pueblo would accommodate a population of from five to eight hundred.

Pueblo Bonito (Fig. 28) is one of the most extraordinary of all these structures. Roughly, it approximates a semi-circle in shape with a diameter of five hundred forty-four feet. The curved portion is occupied by dwellings and the flat side forms a wall for defense. Within the pueblo are large vats for storage of supplies. This is, so far as is known, the largest single pueblo in North America, containing no less than six hundred and forty-one rooms.

Certain of the tribes associated with the pueblos have at times been sedentary and at times nomadic. Such a tribe is the Navajo, who in addition to pueblo dwelling developed a sort of

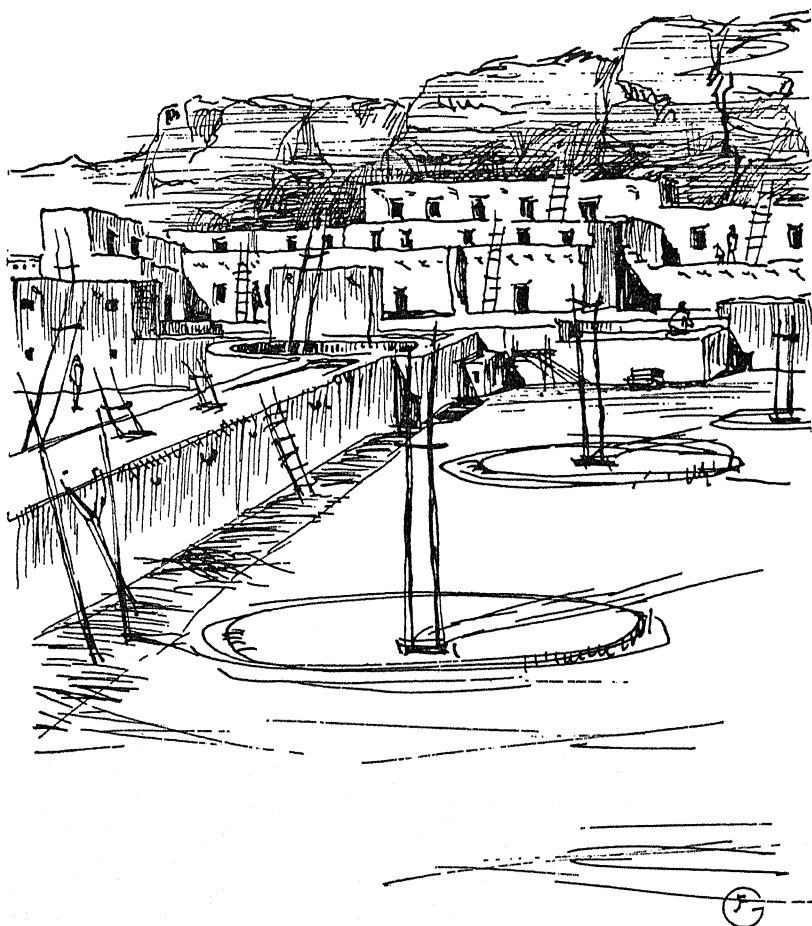


FIG. 29. PUEBLO BONITO

After a drawing by Kenneth Conant for the National Geographic Society

structure for nomadic purposes in the form of a rude cabin, known as a *hogan*. The Navajo have always had a high esthetic ability and their work in silver and their sand paintings are of great beauty, and far superior to their housing.

PUGET SOUND INDIANS

In Oregon the Indians were confronted with still another set of conditions. The principal game was in the water and consisted of seal and salmon. The pursuit of the former required boats and a high degree of skill. The great size of the fir trees afforded large logs permitting great floor span and the lumber was of a kind that permitted a high quality of workmanship with rude tools.

Again among these Indians we find communism. Their houses were similar to the long houses of the Iroquois but much larger. Recorded measurements are five hundred to seven hundred feet of length and forty to ninety feet of width, this great width being made possible by the spanning power of the cedar, spruce, and fir, which split easily and could be made into good boards. Most of the houses had roofs nearly flat, of a shed type with a slight pitch from front to rear, although occasionally the gable or gambrel is mentioned.

The structure of the house was of two rows of uprights made of six- to eight-inch planks two to three feet wide. These were placed twelve to fourteen feet on centers and supported beams two feet thick, which often spanned fifty feet or more. Across these beams were purlins, and then a double layer of planks three feet wide was laid on the purlins. These planks had troughs cut in them and were laid like tiles, being bound to the beams with cedar withies.⁶

The walls of the house were made of wide planks either run vertically and battened or run horizontally and overlapped. In either case the houses were loosely built and drafty. Moreover, in summer they presented a curious appearance, for the planks covering each man's section represented practically all of his personal property, and these the men often took with them when they went out to the sealing grounds.

Within the houses, apartments perhaps thirty feet square were separated by boards reaching from dirt floor to ceiling.

⁶ Maori construction was very similar.

Between the apartments an alley four feet wide extended through the entire length of the house and the only entrance to each compartment was through a hole twenty inches wide and thirty-six inches high. The whole village of Tumachemootool is said to have been housed in one building one hundred fifty feet long with seven distinct apartments.

Thus throughout the continent of North America at the advent of the colonists the Indians were found dwelling in communal relation and in varying degrees of culture but in every case well adapted to their environment.

It has been said that very primitive peoples survive the advent of a race much more advanced but that higher civilizations usually succumb to the conquest of another high civilization. The Indians of North America were not sufficiently primitive to grow with the whites and there remained for them nothing but virtual extinction by their conquerors. The remains of their cultures bear witness to the tragedy.

ESKIMOS

The Eskimos or Innuits have remained essentially distinct and free from contamination, whereas the cultures of the other Indians of the North American continent, even in the pueblos, have been seriously modified. The Eskimos therefore may be regarded as maintaining a living native culture of North America, while that of the other Indians is really a contaminated survival from a people of the past.

The Eskimos inhabit the Arctic coasts from Greenland to a small portion of the Asiatic side of Bering Strait. The region in which they live is cold and unproductive. A few wild berries and roots do grow, so Eskimo diet is not entirely non-vegetable but on the whole he is dependent upon the sea and particularly upon the seal for his food, his clothing, and his fuel. Consequently the Eskimo never lives far from the coast and even on hunting expeditions he seldom goes more than thirty miles inland.

The tribes have no chiefs. They are generally friendly one

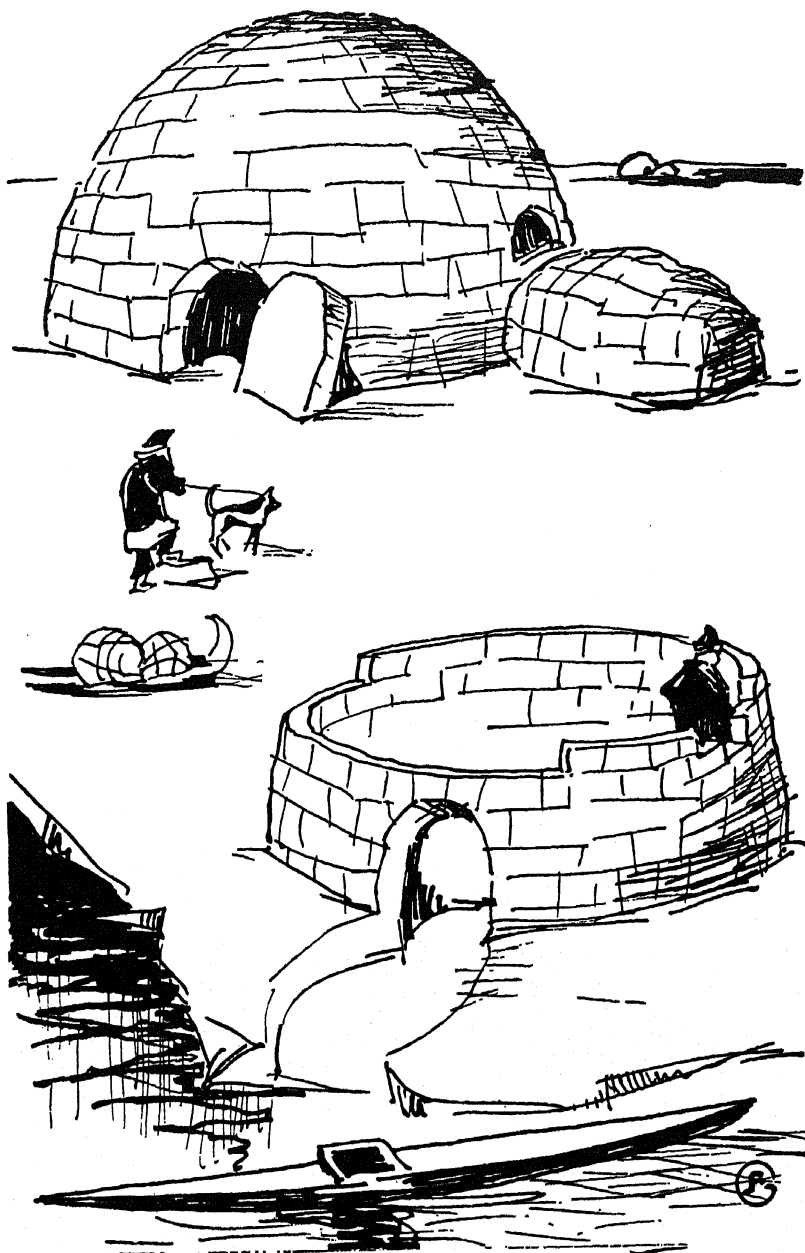


FIG. 30. ESKIMO SNOW HOUSES

with another and usually good-natured. The government lies mainly in the family although able men naturally achieve some power in a village. Polygamy is rare but divorce and remarriage common.

The tribes rely almost solely, as has been said, on fishing and hunting. In the pursuit of the former they have necessarily had to develop boats, and, as driftwood is scarce and unreliable, their canoes are often made of seal skin stretched on a frame of whale-bone. The bulk of the canoe is covered with a skin so that the paddler sits in a sort of hole. They are very dexterous in handling this *kayak* and a good paddler can turn himself and his canoe in a complete somersault in the water. Other communication is principally by the sledge made of two runners of wood or bone with cross bars and drawn by dogs. One authority cites a sledge whose runners were frozen salmon.

The weapons are ingeniously developed for their purpose. The harpoon has a detachable shaft which, when the quarry is struck, is removed and replaced by an inflated skin which tires the game out. The bird spears also have a bladder. A good bow and an arrow are made of whale rib. Seals, reindeer, and whales are the principal game.

The popular idea of the Eskimo is that he lives in snow houses or *igloos*. As a matter of fact, these are the exception rather than the rule. In the summer the people live in conical tents of skins and in winter in huts built half underground and made of stone, turf, bones, and dirt, the entrance of which is through a long tunnel, so low that one has to crawl. The snow hut is built as a temporary residence during the winter; but the people, although hunters, are sedentary rather than nomadic. The snow house is built of rectangular blocks cut out of hard, wind-packed snow, with a long blade. The blocks are three feet long, twenty inches wide, and six to ten inches thick, and slightly beveled so as to corbel when laid in successive circles and to form a dome. A sheet of ice may be used for a window. Of course in winter the permanent houses of stone are thoroughly covered with snow which is good insulation.

The Eskimo however by no means relies on insulation alone for protection from the cold. In addition to his clothing he uses the seal-oil lamp for both light and heat. This hangs from the roof. It is made of steatite in basin form with a wick of moss. Ventilation of the hut is practically nil; and when the lamp has been burning for a short time it is extremely hot and close inside, and the atmosphere is not helped by the personal uncleanness of the Eskimo, the filth in his hut, the odor of blubber and of dogs who sleep in the passageway, and the fact that the people seldom doff their clothing.

As a rule the houses are built for one family but in Greenland and parts of western Eskimo territory communal houses may be found. Personal property is scant and consists mostly of the sledges, and the weapons above described.

Food is principally meat, sometimes boiled but more often frozen and eaten raw. Blood and the half-digested food in a reindeer's belly also are eaten and sometimes blubber; but this latter is a luxury, for it is precious, serving as the source of light and heat. The Eskimos are said to be prodigious eaters, as is natural in the cold climate. In Greenland each individual has two and one-half pounds of flesh and blubber and one pound of fish in addition to berries and seaweeds every day. When they feel prosperous ten pounds of meat may be eaten. "A man will lie on his back and allow his wife to feed him with tit-bits of blubber until he is unable to move."⁷

The Eskimos dress entirely in skins and both men and women wear a jacket suit with trousers tucked into boots of seal. In the winter they wear two suits, one with hair inside and one with hair outside. Shirts of bird skins are also sometimes worn. Clothes fit beautifully and are excellent in workmanship; for the sewing is very neat although often done with thread of sinew and a bone needle. Naturally with the passage of time some steel needles, some imported thread have modified the manufacture of clothing.

⁷ Encyclopædia Britannica — 11th edition 1910-11. Article on "Eskimo," Vol. IX, p. 770.

The Eskimos' personal habits are very dirty. They seldom, if ever, wash, although mothers sometimes lick their babies, who are kept in beds of feathers.

Although they have produced no serious art or literature, the Eskimos are not unintelligent. They like music and pictorial arts. They are fine mimics and quickly learn even such games as chess. Moreover they need not be scorned with respect to the arts of life. They represent a very thorough adaptation to environment and have produced a considerable set of tools and a standard of living very decent if full consideration is given to the disadvantages of their surroundings and the scant supply of raw materials afforded them by nature.

CHAPTER V

Transition to Higher Civilization

WITH the development of more advanced tools for cultivation of the soil, agriculture, as we know it, began. This was coupled with the addition of a few domestic animals (not on the scale of the flock or herd) to the agricultural establishment: beasts of burden, camels, yaks, dogs, donkeys, oxen; animals such as horses and oxen to draw implements; animals such as cows, poultry, goats, pigs, to supply additional food; animals raised for hides, feathers, wool.

Under the hoe culture there was little incentive for a man who was naturally lazy (as almost all men are until civilization sets up traditions which call for industry) to till much more ground than that required to feed him and his family for one year. Additional grain would merely rot in the bin. Moreover the fields were scant and over-cultivation merely meant tremendous toil and the necessity for moving sooner. However, introduction of better agricultural tools, the use of animals, and developing knowledge of the principles of cultivation and rotation of crops made it possible for one man to till with less effort fields whose yield was far in excess of his own requirements. This in turn made it possible for some other man who did not like working in the fields to turn his hand to some other activity, the manufacture of baskets, ceramics, or the art of war. In a short time there was a rather extensive division of labor and there grew up a middle class of traders whose duty it was to arrange the exchange of the goods of one man for another.

It will be noted, however, that this division of labor was not

able to progress very far until some method of transmitting payments over relatively long distances was devised. In a small local area there is no need for a middleman since the farmer knows the basket maker and barterers with him directly for his baskets. Grain moreover is a relatively bulky commodity. The plough-domestic-animal culture was, therefore, limited in its growth until some human genius had the idea of replacing a bushel of grain, for trading purposes, by some small token.¹

The introduction of media of exchange in the form of money at once led to major developments. It permitted taxation of people far distant from the source of government. It allowed of real saving, as now a man was not forced to save materials that eventually spoiled but was able to keep hard metal that never spoiled and that each year represented a fresh bushel of grain still in the fields. Thus central governments were able to exist, and nations to grow while at the same time frugality achieved a new significance. On the other side of the picture, for the first time a secondary factor appeared in civilization and man began to get out of touch with essentials of life. Fingering his copper money, the money lender was touching grain but all sense of the meaning of grain had gone.

Such increase in the size of territorial units at once made possible the growth of a considerable middle and upper class. At the top were governing or priestly castes who had nominal and sometimes real duties but who never grew a morsel of food for their table or made a square inch of cloth for their backs. Between them and the farmer now came craftsmen and traders, the former living where the best materials for their craft were to be found, the latter traveling far to distribute the products of this craft. For the first time on serious scale it became possible, through the trader, for the natives of a region deficient in clay to have pottery, for those with no suitable grasses to have woven baskets.

Large governing and priestly classes tended to congregate together and this led to the growth of the city. It is a little hard

¹ Often copper but of course by no means in the beginning limited to metals.

in some ways to see how these people first gained their power and wealth but, once obtained, they held them by hiring mercenaries to collect taxes and to enforce their laws. The beginnings of urbanism developed new problems which had never previously existed, problems of police control, of fire hazard, of sanitation. The growth of the state necessitated improved communication and internal transport for the preservation of order and indeed of the taxable community, and expansion brought states more closely into contact with one another, resulting in problems of foreign relations and trade.

Throughout all the early phases of this development the farmer remained practically self-sufficient. The trader brought him few goods. From his lands he raised food, his few animals provided him with the materials of clothing. He wove his own cloth, dressed his own hides, dipped his own candles or cut his own rushes, clarified his own oil for the lamp, cut his own fuel for the domestic hearth. The beginnings of trade therefore were principally with the upper and wealthier classes, peoples whose work was administrative, who lived in cities, and who were incapable of working or unwilling to work for provision of their own needs. These people often had a margin of wealth and began to demand extra comforts and conveniences, exotic foods or pets, things strange and drawn from far beyond their own borders. The course of economic growth since that time has been one of reasonably steady extension to poorer and poorer classes of the ability to buy marginal goods.

The effect on the family of the new order was tremendous. A man with money to leave naturally wanted to leave it in good hands and not have it revert to the state. Male heirs were earnestly sought, not now because they could add prowess and help the tribe in the hunt or the war but because they were suitable inheritors of wealth. Lacking male heirs, adoption became common. Eventually it began to be seen that female members of the family were better beneficiaries than the state and this conception marked a big step forward in the position of woman. Moreover the heirs should be properly trained in the

handling of property and education became more significant. Starting on this basis education spread to produce philosophers and poets, men of absolutely tertiary economic significance dealing with no want of life at first or second hand.

The growth of this sort of thought of course had a great effect upon religion. Coupled with the different needs of different peoples, the warriors and tradesmen of the cities, the farmers of the country districts, it resulted usually at the outset in a pantheon including deities of fertility, deities of war, and eventually, as in Greece, deities of the arts and of beauty.

This sort of civilization without a real industrial overlay was the basis of the home of Egypt, Babylon, Greece, Rome, and of the Middle Ages in Europe, although in the latter period the industrial element began to be more common. Even in Rome we can find the beginnings of a proletariat² but we must realize that there was no working class in the modern sense of the term.

Religion, beginning merely as a *mélange* of the old belief, gradually was distilled, usually through the appearance of some great teacher. It became a curious mixture of the old fertility, phallus, and lightning worships, overlaid with the idea of one great god. To this was added a set of ethics or code of living which replaced the tribal dance; the ritual of the dance aimed to secure immediate rewards in better crops or better hunting, the former deferred the reward to another world in the promise of heaven or *nirvana*. To the code of ethics, which did not appeal to every one, was added a set of esthetic principles in artistic illustration of parable and story or in ritual; and finally a philosophy was added. All these elements, each holding a different type of man, were called one faith and the professors thereof were said to be worshipping in the same belief. This welding of religion was of course of great aid to the welding of the state.

The same state was during these periods largely oppressive

² The word proletarian as used in Rome had a significance different from that of today.

and frankly meant for the few and not for the many. Individual rulers at various periods were kind to poor subjects and did something to ameliorate their lives; the Egyptian kings had a set of prescribed duties; but in the last analysis the government did as little as it could while still avoiding revolution, and concentrated wealth, happiness, and power, in the hands of few men. The Greek state is no exception to this as the *demos* of Athens numbered but a small proportion of the population of that commonwealth. Under such conditions slavery was of course prevalent. The freeman moreover paid taxes not as he once had to a chief for the latter's prowess and advice but to avoid confiscation of his lands. The hypothesis of taxation was the same but the results were far different.

The development of leisure time and marginal incomes set man of the cities thinking about physical comfort. Homes of this class improved tremendously. We find better and more substantial construction now beginning; new heating systems were developed such as the hypocausts of Rome; cooling was provided by the *mulguf* of Egypt, the *serdab* of Bagdad; beauty was recognized and the homes of Pompeii were exquisitely and expensively decorated.

Until the Middle Ages the state interfered little except by collecting taxes. The growth of the feudal system in western Europe interposed a new set of relations between lord and liege. In theory and often in practice the lord's duties were as clearly defined as those of the liege. Every man knew his place and was reasonably secure therein. Women of the upper classes achieved a new freedom and regard but those of the poor were still drudges or the prey of the well-to-do. Children in general were advancing in their claims to serious recognition.

But enough of generalization. These developments will, it may be hoped, appear sufficiently clear to the perceptive reader in the following pages, in which we embark on the course of evolution through the higher civilizations of the world.

PART II

Evolution of the Modern American Home

CHAPTER VI

Early Semitic Homes

EGYPTIAN

FOR many centuries the great Egyptian people stood at the apex of the civilized world. Evidently there must have been changes in their dwellings as they progressed from isolated, constantly warring tribes to a well-knit monarchy and essentially urban civilization. But archeology has little to say about Egyptian family development and we shall have to tell what we know without regard for exact dates, giving a composite picture across the generations which perhaps will come nearest to being thoroughly representative of the time of the Pharaohs.

In this period, then, we find a people of high development, living in a narrow fertile plain with a good if warmish climate and quite well protected geographically. The people are Semitic, apparently of a high order of intelligence. The Egyptian sculptors were not prone to exaggeration of the beauty of their royal subjects, yet in the bust of Nefrotete, wife of Akhenaton,¹ we see a woman of obviously high mental attainment, of serenity and poise, and most of all of a spiritual beauty which has not been surpassed in any period or in any art. These people had developed an economic order of striking contrast, the royalty and the rich being very rich, the poor very poor. The comparison of their respective dwellings throws a dark shadow indeed on the Egyptian economic structure.

Although the king was not a perfectly absolute monarch, being held in check, as in modern Abyssinia, by the power of

¹ In the Altes Museum in Berlin.

feudal native chiefs and even more by an elaborately formulated set of regal obligations and duties, none the less all power, all glory, and all wealth were directed toward him. Although the Egyptian nobility owned many slaves, toil was the common lot of the citizens. Positions in the palaces, however menial, were eagerly sought for, for their prestige and probably also better living conditions.

There is no way of determining the position of the home in the cost of living as the cost of articles is seldom mentioned in royal archives. Raw materials produced by slaves or acquired in trade for slave-produced articles were worked by slaves or by free artisans associated with the palace, who in turn were paid in lodging, food, and clothing, all slave-produced. Slaves were such a general commodity during the period of Egyptian military ascendancy that there was no need to spend anything considerable on their housing, their food, or their health; so that charges for interest, maintenance, and depreciation, of slave labor were definitely not felt by the Pharaohs.²

Urbanization in Egypt resulted in fairly large cities clustered around two important quarters, one of the palace and one of the temple. More than once the Pharaohs changed their residence, prompted at least partly by religious motives which we shall presently consider. The investment in buildings of all sorts other than the palace was so slight that a large proportion of the population migrated with the court leaving the shadow of a city behind, a city built so badly that rain and wind soon demolished all but the temples and the palaces.

The political organization of Egypt was static over a long period of time. Though severe, the government was not one of the worst which have existed. Centralization of power under the Pharaohs was of course not possible until a metal medium of exchange (copper) was adopted. It has been truly said that the limit of political union in any period depends on the transmissibility of payments. So long as Egypt remained in the corn stage the unit of government could be no larger than the

² Later slave-owning civilizations did have to recognize these factors.

nome. But when the Pharaohs introduced copper the *nomes* were gradually united into the one great unit. Necessarily with this unification there came a large bureaucracy.

The king himself was entirely subservient to the laws in a way which surprised Greek visitors. The tradition was that the welfare of the land depended upon his vitality and his actions and with this idea there grew up a fixed routine for his day with a rigidly set time for each act. The king was literally the slave of his position. So, however bad an Egyptian monarch might be personally, he could not earn the hatred of his subjects by irresponsibility.

Under the king, however, were many nobles entrusted with the administration of empire and particularly with the collection of taxes and the management of engineering projects. Hand-in-hand these two conditioned the life of the average man.

Taxes are originally a levy of produce or of labor. As Egypt grew, taxes became heavier, until in the Ptolemaic era they reached one fifth of the income. The tax of labor in Egypt is, however, particularly misunderstood and has resulted in a good deal of nonsense being written about the "sweating groaning multitudes."

The levy of labor for public works (*corvée*) was a natural thing. During the annual inundation the average peasant was unemployed. At the same time the flood imperiled the dykes, his only protection. It was natural therefore that unpaid labor should be organized to maintain the dykes. Again after the crops were gathered there were three dry months during which the peasant had nothing much to do and when canals could best be cleaned and deepened. Thus the two main labors in connection with the universally beneficial water supply had to be done at a time when the native was otherwise unemployed and they logically became compulsory services. The *corvée* was not generally worked severely, in fact there was a tendency to levy so many men that the work could not be properly organized and the labor dawdled about. Furthermore, a man was levied only twice in his lifetime.

There was no appreciable slave class until the XXth dynasty and the conquests of Rameses III, and probably slavery never attained the proportions most people think. None the less the *corvée*, the serfage, may properly be considered as one facet of an economic structure of central concentration and not radial distribution of wealth. The noble classes liked to keep their offices hereditary and on the whole were successful in so doing although there were many repetitions of the Joseph incident. Artisans were not allowed to have trade or employment other than their fathers' or to be reckoned in any other class. There was a large class of free cultivators but skilled handwork was long the specialty of trained people in the noble establishments. There was no rich merchant class, for internal trade was slight and foreign trade was largely in the hands of foreigners.

The government was sensible of its duties to the people and not unduly oppressive. It, at least, gave them comparative security from military invasion and even from theft, to judge from the relative absence of locking devices.³ It carefully organized the people for their own interest in the mechanism of the all-important water supply. But it was essentially for the enrichment of the few and there is no evidence of governmental interest in the living or social conditions of the populace.

Religious concepts, always of great importance in moulding a civilization, were of supreme significance in Egyptian life. The religion itself was a curious combination of polytheism and the cult of the dead. The large pantheon of Egyptian deities was made up of old tribal gods such as the hawk, Horus, the jackal, Anubis; a number of demigods from the Osiris legend, Osiris, Isis, Seth; cosmic deities more truly national, the sun, Re; the personification of ideas, joy, truth, right; and in later days imported deities such as Baal. At first quite distinct, the gods rapidly became intermingled one with the other. A very definite tendency toward monotheism was only once achieved and then ephemerally under Akhenaton. At all times, however, the worship and propitiation of deities was not a general public

³ This may merely mean that most people had nothing worth stealing.

function but belonged to the priest who, at dawn, opened the temple, performed the necessary rites, and fed the gods.

The portion of the religion that *was* personal to each Egyptian was the cult of the dead, inextricably woven to be sure with the polytheistic worship, yet a thing apart. The Egyptian believed in immortality and he built tombs often far more elaborate than his houses, tombs which were literally houses of the dead. These houses he furnished to the best of his ability, either actually or pictorially, so that his beloved dead might not want for anything in the mysterious land of the hereafter. As Bossuet has said, the house of the living was really a hostel in which a small and passing phase of life was to be spent. The tomb was the eternal habitation.

Every father expected his son to give him a fine burial. Undoubtedly this drain on the resources of the living in favor of the dead kept the houses of the poor at a low level. New dwellings for each generation of the dead cost enough, but superstition may have demanded also new dwellings for the survivors if the common people, like the kings, refused to occupy the abodes of their predecessors.

Like nearly all highly civilized men and particularly Semitic men, the Egyptian was essentially monogamous. He had one legitimate wife, "his dear wife," "the lady of the house." The women occupied a high place in Egyptian civilization and hence the home (as distinct from the building which sheltered it) became an important factor in the life of Egypt. Like many Semitic civilizations the system was matriarchal and property descended with women and daughters. The Egyptians loved their children and although discipline was strict they made real sacrifices for their entertainment and advancement. Some beautiful toys have been found and there are recorded incidents of children of the poor rising to high position.

Physically, as we have pointed out, Egyptian shelter was a poor thing at best. In every town the stately temples of the local divinities and the imported-stone palaces of the Pharaohs stood in grim contrast to the mud-and-plaster hovels in which

even the fairly well-to-do dwelt. In thinking of these houses, however, we must remember the Egyptian climate, one of the most equable in the world, one highly conducive to outdoor living. Cooking and eating were done in the open air, as also the weaving of cloth, and the making of pottery.

Middle-class buildings were generally small, connected so as to form continuous sides of the streets, seldom exceeding two stories in height. New towns built near the site of public works were rectangular and had streets eleven to fifteen feet wide with a channel of stone running down the middle and no separate footway, as there were few vehicles. The development of building was perfectly logical if not very advanced and the materials used in the construction of shelter were, as usual, conditioned by the resources of the country. Egypt was a land rich in stone and sand, poor in metals and in wood, about the only tree being the palm. Stone is a difficult and usually a costly material to handle, involving a great deal of labor. Consequently only the slave owners, the royalty and the nobility, and occasionally a very rich commoner could afford dwellings of stone and even such well-to-do middle class as there was lived in buildings of unbaked mud brick.

The poorest Egyptian buildings might consist of a single cell covered with a thin roof of palm leaves, placed side to side, and often these roofs, Maspero says, were so low that an average-sized man, rising carelessly, might thrust his head through. Shepherds, then as now, made houses of reeds, which are easily plastered with mud. Bricks in Egypt were and are made by nature. As the soil dries and cracks large lumps can be lifted out and piled up in rough walls.

The simplest peasant's house consisted of a shelter open on one side. From this there developed a room behind the shelter, which was thus transformed into a portico. Many houses apparently consisted of an open court opposite the entrance, with a common room on one side, two storerooms on the other, and a stairway to the roof. The rooms were covered with poles and thatch, and larger ones in later periods had barrel vaults of

brick. Doorways were almost universally arched, although in the stone temples the post and lintel was the customary construction. The doors were of wood with a wood sill and lintel built into the wall. Stairways consisted of two short flights of six stairs each, with a turn in the middle and very wide treads.⁴

Of the houses of the very poor Garnier writes⁵ that if a boatman or swineherd or embalmer of the time of Sesostris were to come to life again he would find no substantial difference between his dwelling and the dwellings of the fellaheen of modern times. By no stretch of the imagination could these

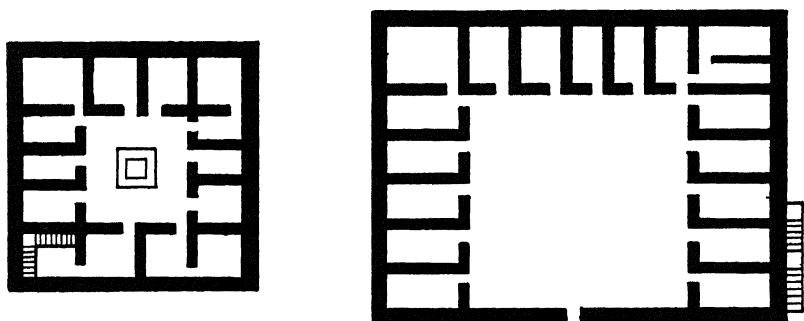


FIG. 31. HOUSE PLANS OF THEBES, EGYPT
From Gailhabaud, "Monuments, Anciens et Modernes"

rude dwellings be considered homes in our sense of the word. The poor spent all their time in the open air and used the house chiefly as noontime shelter for siesta and a place for storing their scant possessions.

A typical citizen's house of about 4,000 B.C. consisted of a small court with several cubicles leading off of it and an external staircase leading to the roof where people ate and slept. The walls were of sun-dried clay with wood supports, and the roof was made with rafters of palm, the only really indigenous tree. The rooms of the wealthy were richly painted and in nearly all cases there were gardens, as all Egyptians seem to

⁴ As much as 22 inches.

⁵ Garnier, Charles, and Ammann, A., "*L'habitation humaine*" (Librairie Hachette et Cie., Paris, 1892), p. 126.

have loved flowers. Artisans developed in Egypt a type of building quite similar to those still in use, with a shop below and living quarters above. Doors were seldom locked though sometimes closed with a mud seal.⁶

As a result of work by Wilkinson we are able to picture one middle-class Egyptian house in Tel el Amarna fairly accurately. This house was detached and forty to fifty feet square. It was raised a foot or two above the desert and surrounded by a garden wall. Going up a few steps one faced the porter's room. The outside of the house was a blank wall pierced with one door and with two or three windows set high up and small in size. The door was flanked by stone columns joined by a stone lintel on which the name of the owner was painted. Passing through the loggia, half open to the north, and going along the side of the house, one came to small rooms at the end for visitors. Also from the loggia, one reached the central hall which had a low bench along one side and a firepan in front of it. On the west side of the court was the red niche for domestic worship.

In this court the family gathered together in all communal acts of domestic life. Here the cooking was done. Here under a shade tree the man pursued his occupation. Here the family ate its meals and here not infrequently slept under mosquito nets. Off the central court there were four groups of rooms, one the master's with a narrower south end for a bed, one for the women, one for men's quarters, and one for storage.

A small amount of opening in the roof furnished enough light for the rooms and thus small windows or indirect light from the doors sufficed. In the temples a hole nine inches square in the roof was sufficient to light a room thirty feet below. The courtyard was therefore roofed over the greater part, the unroofed section being on the north side so that the sun lighted the north wall but seldom reached the floor. Where the ground was damp a floor was made with upright cylinders of rough

⁶ Garnier (*op. cit.*) depicts a wide variety of elaborate latching devices but most authorities regard these as uncommon.

earthenware with flat tops, over which a brick paving was laid. Roof drainage was provided to avoid leaks; but ground drainage was not laid out and there was no sanitary drainage, although the unreliable Herodotus reports earth closets. Evidently the few middle-class houses, mostly belonging to minor officials, were not remarkable; but the common room indicates a fine scheme of family life.

If we are to look for improvements in the art of living in Egypt we must turn to the palaces, not as typical but because there alone shall we find them. Furthermore, it is from the rich that improvements gradually filter down to the poor and the Egyptians of the wealthier classes were well able to imagine how to increase comfort. The plans of the palaces were elaborate with many separate sections, for the Pharaoh, the women, the servants, the slaves. The better apartments were beautiful, furnished with well-wrought chairs, tables, and beds. The walls were hung with tapestry; pottery and vases of many kinds and of great beauty were used profusely. There were many doors and windows, the former made with one or two valves turning on metal pivots, opening inward and fastened with bolts and locks; the latter fitted with lattices and shutters, and secured like the doors. The windows were small as dictated by the climate, for where little light is admitted, little heat penetrates. It is curious that the Egyptians, who knew the manufacture and many uses of glass, did not use it in their windows. Even the palaces were heated primitively by a fire on the hearth without flue, or more often by a pan of live charcoal or brazier. These open fires necessarily made the air stagnant and it was often deodorized by pungent or agreeable perfumes. There was occasionally some effort to promote ventilation by placing small openings near the ceiling opposite each other.

On the whole the thermal problem of the Egyptian was one of avoiding heat. For this purpose the Pharaohs used roofs as we do porches; but they also built subterranean chambers, grottoes, and galleries for retirement on hot days. Best of all, they showed real inventive ingenuity and a knowledge of the

principles of ventilation in the development of the *mulguf* (Fig. 32). This was essentially a device for ventilating through opposed openings, making use of the prevailing winds on the principle of wind ventilators on shipboard. The *mulguf* covered the top of the house. Its sides were perpendicular and enclosed and the ends were open facing the direction of the prevailing wind. The roof sloped from each open end to the center, where a vertical partition or deflector divided the structure in two. A breeze in the direction of either opening was deflected from the sloping roof of the *mulguf* into the room below and rose to escape through the opposite opening above.

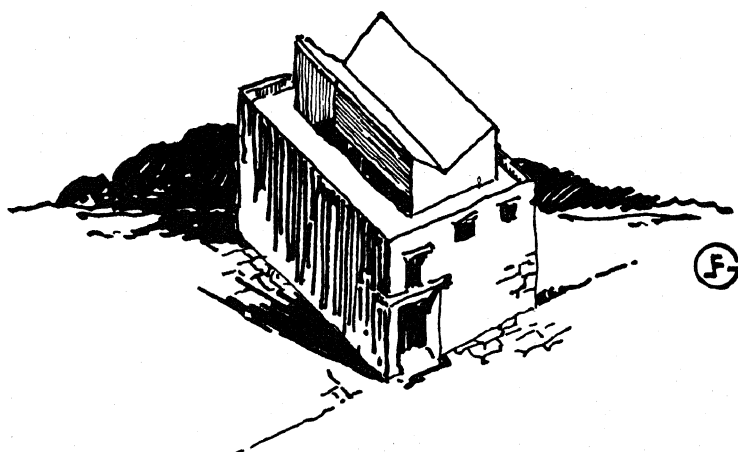
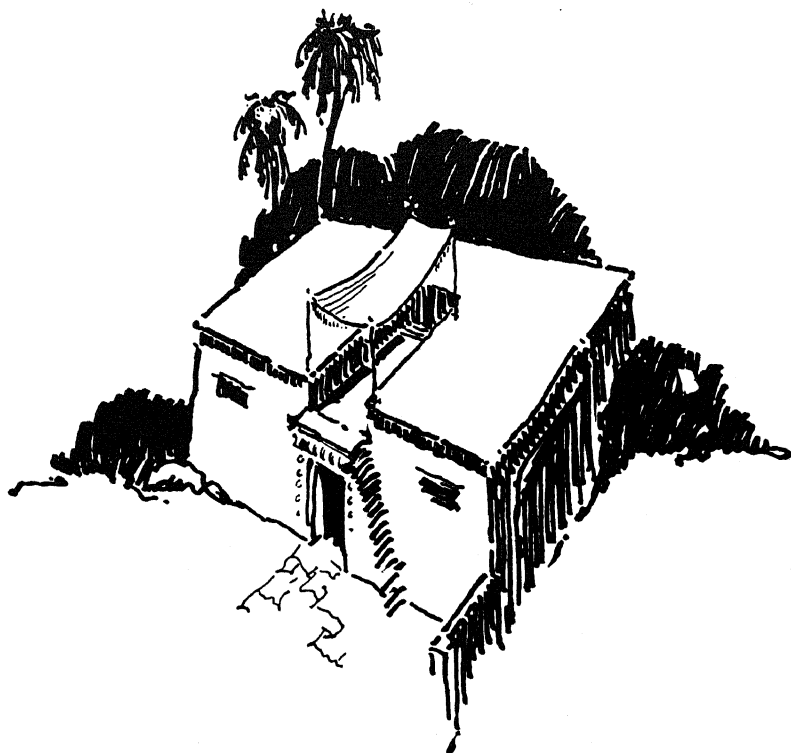
Artificial light was probably by lamps. We know that lamps filled with olive oil and salt with a wick floating on top were suspended in the open air before the house to burn all night; and, although there are no representations of lamps or torches in the paintings, we may reasonably conclude that they were the usual lights.

So much for the Egyptian hovel and palace. Uncomfortable in spite of its improvements, badly ventilated in the hot season, with little or no sanitation, none the less the Egyptian palace represents a distinct step on the upward path of man toward a habitable dwelling.

Before we leave Egypt, however, it will be well to note something about its building tools. The Egyptian used an adze, a wood plaster float, a square, and a plumb bob, differing no whit from those of today. His lamps, his heating system, his ventilation, his sanitation, are long outmoded; but many of his building methods and some of his building tools remain to be improved in any essential particular. He was a master mason and it is said that to this day no one can produce truer masonry.

SUMERIAN

The civilizations that occupied the great alluvial plain of Mesopotamia during its heyday were essentially so similar that Chaldean, Old and New Babylonian, and Assyrian may justifiably be considered together. In every case the most sig-



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FIG. 32. CHARACTERISTIC EGYPTIAN HOUSES

nificant feature of the nation was the economic structure, consisting of an important agricultural foundation on which had been superimposed an elaborate commercial or military organization. Ethnically the population of each was a mixture of Sumerian, Semitic, and Kassitic peoples with the Semitic strain dominant, particularly in Assyria. The religion was a mixture of two radically differing concepts of nature. Like most other fused populations, that which we shall name, conveniently if not altogether precisely, Sumerian attained a high degree of industrial and commercial success far in excess of that usually reached by pure stock. Although the Assyrians, who occupied the upper foothills bordering on the plain, were more ardent warriors than the Babylonians, they, like most pugnacious peoples, lacked imagination and hence we shall find most of the Sumerian phenomena to have begun and flowered in Babylonia with only feeble offshoots in Assyria.

The chief cities of this civilization (Nineveh, Babylon, and Nippur) were much alike and were all located on the east bank of the Tigris where there was an ample supply of water. Between the Tigris and the Euphrates was the plain, almost unbroken throughout two hundred and fifty miles. This alluvial region was very fertile and was probably the Garden of Eden of the Bible. To its natural abundance the Babylonians added the stimulus of extensive irrigation so that Herodotus could report that wheat returned 200-fold to the sower and Pliny stated that grain was cut twice a season.

Built on this agricultural basis and materially assisted by long years of peace and comparative security from invasion, was the most magnificent commercial structure of antiquity. Commerce diversified labor and distributed wealth through all classes, with results quite unlike the sharply drawn lines of Egyptian poverty and wealth. For example, nearly every Babylonian carried a seal, and the seal cutter's position was important, ranking him among the most skilled artisans in the state. Such a man might earn fifty times the wages of a butcher.

We glean a great deal of evidence about Sumerian life from contracts, leases, and wills. Litigation was common. An industrial and trading community becomes, perforce, legally minded. Long before Khammurabi, the great lawgiver and codifier, Babylonia possessed an elaborate and essentially just code of law, particularly with respect to property.

The law which protected property in all its forms touched housing at least in two particulars, with respect to construction itself and with respect to tenure. There is at least one authenticated case in Babylonian court records where the *lex talionis* was invoked and resulted in the execution of a son because his father, a builder, had by building badly caused the death of a house owner's child.

The all-importance of property in Babylonia shows in the government. A nation which has high regard for personal property cannot tolerate a completely selfish government. Royalty may be autocratic, it may be wealthy, but it cannot divert all essential wealth to its own coffers through taxes, confiscation, or slavery. Consequently in the Sumerian civilization we find a long line of rulers, essentially theocratic and absolute, yet none the less giving a good deal of their time to the enforcement of the concept of justice and to the advancement of public projects such as highways, posts, and irrigation.

Property in the Sumerian states was regarded as purely personal. The effect of this idea was most important for the family. Customarily the bride had a dower. But the Babylonian did not so scorn his women that he regarded dowry as compensation to a man for the trouble of getting married. To be sure, the husband had the administration of the dower during life but at his death the property reverted to his wife or her line. In the event of divorce the dowry was returned to the wife. Thus a government which tolerated polygamy tended by its property statutes to foster monogamy. The economic power exercised by the wife was reflected in her legal rights, rare indeed for antiquity. The woman could of her own right enter a partnership, buy and sell, lend and borrow, appear in court

as plaintiff or witness, bequeath property. Gradually she attained religious equality and we find priestesses and nuns of the sun god on an equal footing with priests and monks. We have said that monogamy was an essential characteristic of Sumerian family life but this must be qualified by mention of the concubine, a woman who brought no dower or who was purchased by her master but whose children often had rights of inheritance or were given them by adoption.

The personal nature of property had a second important effect upon family life. A great deal of adoption was practised in order to keep property within the family. Within the family, however, rights were curiously mixed. The father might adopt a slave as another son. On the other hand he might sell his children as slaves, a privilege also accorded to the eldest brother, if he were head of the family, over his younger brothers and sisters. Children thus sold as slaves none the less remained heirs. The effect of this was to produce a slave class in Babylonia quite different from any other the world has ever known.

The Sumerian slave was on the whole well treated. He could hold property and frequently bought his freedom. He was often set up in business by his master. He might practise any of the trades or arts. He had full rights before the law and even in some cases owned slaves of his own. He resembled a bondman rather than a slave and probably enjoyed a better position than many a free man, who often was little more than a serf bound to the soil. In militaristic Assyria, where the slave was frequently a captive, his position was naturally less happy.

The state religion, which like all Semitic cults had a definite trend toward anthropomorphism, offered good and evil deities to reconcile the natural beliefs in evil, necromancy, and darkness as against good, beneficence, and light. This religion had, however, little effect upon private life as it was practised almost entirely by the priests in incessant services and feast days. These must have served, of course, to occupy the small portion of the Babylonian's time that was not spent in marts, in the courts as litigant or observer, and in the libraries.

Sumerians were highly literate. Even the lower classes apparently could read and write and many of them had at their command Aramaic, a foreign language which occupied the position in commerce of the day which French has had until recently with us. Every city had its library with books on a wide variety of subjects.

Commerce and the density of population resulted in a high degree of urbanization. The cities were grouped in confusion around the palaces and temples. There was little stone in the Babylonian plain and the usual construction was therefore of sun-dried or fire-baked brick. Moreover, the marshy nature of the subsoil forced erection of buildings on brick platforms so that in the first instance they stood well above the street, but the rains gradually washed the clay down into the street until in the later periods thresholds were frequently well below the street level. There was some attempt at drainage of these streets by lead drains used to carry the water away from the roofs to the street. At least in Nineveh and Babylon before the seventh century B.C. there were arched drains which, like those of Rome, did not extend to the houses but more closely resembled our storm sewers. The streets were for the most part narrow and winding, muddy and rough, and many of them were not wide enough to accommodate chariots. The populace apparently milled about in the muddy streets in more or less confusion. There were, however, two or three wide paved roads leading up to the principal buildings and used for the course of chariots and carts for military, religious, and regal processions. Apparently there was no attempt at sanitation other than the removal of water, and dogs were the scavengers. Among buildings that indicate the character of the civilization we find public houses and inns. Tolls were customarily collected at the city gates, at the toll bridges, at the quays, and at customhouses.

Though the Babylonians developed ceramic and lapidary arts to an extent entirely unknown by the Egyptians, their houses show no real improvement over those of the Nile. The

homes of the poor were small mud cabins with conical roofs of clay and with the smallest possible windows. The middle-class houses were rectangular, usually not more than two stories high, with the roof remaining the important center. The building material was largely clay mixed with chopped reeds and sun-baked into a brick, and there are evidences of many commercial brickyards. Wood columns and wood pillars were also used, and the usual decoration of the buildings consisted of painted stucco, although some of the better houses

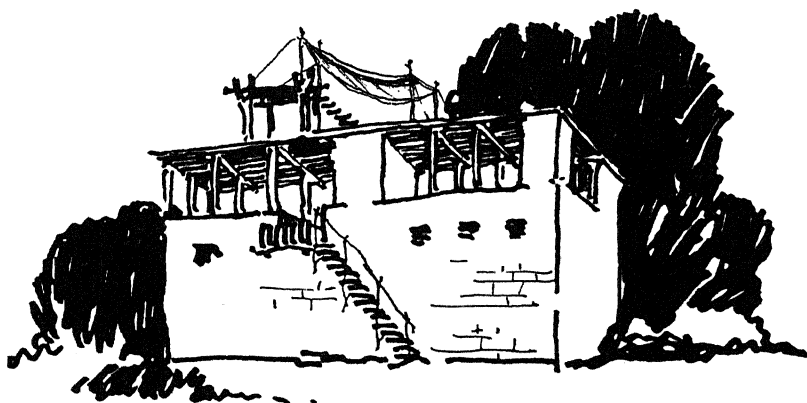


FIG. 33. A CHARACTERISTIC SUMERIAN HOUSE

might have their walls plated with bronze, gold, or painted terra cotta. Heating and lighting were about on a level with those of Egypt. Ventilation was probably not even so far advanced although the larger houses seem to have had large windows near the ceiling, these windows being closed by curtains during inclement weather. Furniture in the house or even in the palace consisted of chairs, couches, tables, and beds, with plenty of pottery and a great many rugs and tapestries.⁷ Beds were not at all common and the majority of the people slept in their clothing.

Quite complete descriptions of two houses are available. The

⁷ Babylonian skill in the tapestry art was highly esteemed even in Roman days.

first of these buildings was found in Chaldea, near Tello, and appears to have been a country house. It was built of brick, three thicknesses in width, and at two levels. The upper level was probably approached by a detachable staircase or wooden ladder. The lower floor consisted of two rooms which were not connected with each other or with the outside, unless from above, and hence were probably storerooms. A large wooden gallery resembling a peristyle ran around the outside. Archaeologists are of the opinion that there must have been one further level, probably built of wood, above the brick building which remains.

A little further light may be thrown on the state of the house-building art by the following description of a rich merchant's house in Assyria in 3,000 B.C.⁸

"It opens upon the street by a small arched gateway, followed by a dark narrow passage, which passes through the thickness of the buildings and opens upon a large court, round which the rooms are arranged. A kind of verandah extends all around; posts planted in the earth support a bright awning, which is fastened to the wall. The rooms are narrow, oblong; a few are arched, a few others covered with a flat ceiling supported by the trunks of palm-trees. The majority of them are store-houses for the provisions and household wealth; a small number only are inhabited. They are all surrounded by a terrace, which is reached by a steep brick staircase; from which there is a view over the surrounding houses. . . .

"During the hottest hours of the day they descend and take refuge indoors. The coolest room in the house is often below the level of the court-yard. . . .

"The floor is paved with slabs of polished plaster of Paris, which resembles a fine grey and white marble, and the walls are covered with a layer of fine plaster, soft to both eye and touch. They are watered several times a day during the summer, and the water refreshes the air as it evaporates. . . .

"The furniture is very simple even amongst the rich burgh-

⁸ Maspero, Sir Gaston, "Life in Ancient Egypt and Assyria" (D. Appleton & Co., New York, authorized ed. from the French, 1899), p. 217.

ers. . . . As a rule household servants sleep upon mats, but the master's and mistress's rooms contain wooden bedsteads raised upon four lion's feet, with a mattress and two coverings. . . .

"A baking oven is built in one corner of the court, skins of wine and jars full of water hang to cool from the lintels of the porch, a fireplace in the open air supports a large saucepan, in which a joint of meat is boiling. The Assyrians eat a good deal and drink still more. The poor are forced to content themselves with a little bread, a few vegetables prepared with salt and oil; and the fish which swarm in the river. The rich have as varied and abundant food as the Egyptian nobles. They repose upon beds of ivory or valuable wood as they dine . . . in everyday-life they meet round the same table, or rather round the same dish."

If Sumeria has little to teach us in the way of advance in home building or on the whole in domestic virtue beyond a certain emancipation of women, on the economic side we find an important development. It is apparently in Babylonia that we first glimpse "rent" as an economic factor. The majority of houses were leased rather than sold and terms of the leases which have been preserved are surprisingly like those of our day. The leases were usually drawn for a period of from three to five years. They provided for payment of rental semi-annually with severe fines in the event of breach of contract. The tenant was to suffer no harm to the premises during his tenancy, normal wear and tear excepted. Doors and windows were usually furnished by the lessee, probably because of the scarcity of wood.

The place of these rents in the general cost of living is not readily ascertainable but it is possible in Babylonian records to find a number of prices, over the different reigns.

We may note, for example, that in the sixth year of Cambyses' reign a smallish house cost as much as four average slaves, not so very different a relation from that obtaining in America about 1840. At the same time fifteen sheep, twelve oxen, or slightly over five steers would buy the house, while wool for a fine robe cost more than even a very good house. Three

years earlier in the reign of Cambyses an overcoat cost about one-half as much as in the sixth year, but of course there may have been more than this difference in quality. Rents in the Persian age varied from five to thirty-five shekels per annum, while in the same period the wages of a seal cutter were sixty-seven shekels a month. Evidently this artisan could readily afford a very good house at a cost of about four to five per cent of his income. Not so, however, the poor unskilled laborer, whose wage of one and one-half shekels or less a month would force him to pay from thirty to forty per cent of his income for a poor habitation. Besides rents we find one other interesting item of housing in Babylonia. At least one man is recorded to have borrowed some money and let his creditor occupy his house for three years rent-free, while the loan was interest-free for the same period, an arrangement perhaps the remote ancestor of our mortgage.

In sum the Babylonian contribution to man's search for a better shelter is to be listed under economics; a distribution of wealth at least more general if not more equitable, a protection of personal property by law, and, finally, legal arrangements, of lease and mortgage. Family life, domestic convenience, and morality show no improvement over those of Egypt.

JEWISH

During all the early patriarchal period the Jewish tribes lived, of course, in tents of goat hair very like those of the nomads previously described. Life during this period was simple and almost meagre. The "mess of pottage" for which Esau sold his birthright was only lentils,⁹ the characteristic and ordinary diet. Even when Abraham was called upon to entertain three angels he was unable to muster up better fare than hearth-baked cakes, a young calf, butter, and milk.¹⁰ During

⁹ Although the same chapter in Genesis relates that Esau, who was the hunter, killed venison and brought it to Isaac.

¹⁰ "And Abraham hastened into the tent unto Sarah, and said, Make ready quickly three measures of fine meal, knead it, and make cakes upon the hearth. [Footnote continued on next page.]

these early years the basis for the beautiful family life of the Jews was developed through privation, want, and simplicity. The Egyptian captivity further strengthened Jewish character and was responsible for the later flowering of fine Semitic life in the Promised Land. However, it was not until after the Jews reached Palestine that they developed permanent homes and that their life reached a plane the highest known to Semitic antiquity.

The land of Palestine was very fertile and comfortable to live in. The Hebrews had the advantage of having dwelt long in Egypt and of having observed the building customs of the Egyptians. Furthermore, they had been in contact with the Sumerian arts. "Palestine was the crossroads of the nations." So, better than any other people in early antiquity, they were in a position to profit from the experience of others. The topography of this small country meant sharp differences of altitude, of climate, of habits of life. Agriculture, herding, trades and trading, rural life and city life, all are reflected in the Bible. The Jewish contribution to modern civilization is extraordinarily rich and extraordinarily profound.

Family life in the Hebrew tribes seems to have been on a high plane. Nowhere is there more love expressed for children and for family relations than in the Old Testament, and this is still, of course, a well-known attribute of the Jewish race. The combined effort required to bring the nation out of Egypt had leveled political distinctions. Rulers there were, but the rulers were close to the people. Slavery existed but relations of slaves to masters were good and after seven years the slave regained his liberty. With rare exceptions monogamy prevailed and the high plane of marital relations can be found in any number of passages in the Old Testament —

And Abraham ran unto the herd, and fetcht a calf tender and good, and gave it unto a young man; and he hasted to dress it.

And he took butter, and milk, and the calf which he had dressed, and set it before them; and he stood by them under the tree, and they did eat."

Genesis, XVIII, 6-8.

"A virtuous woman is a crown to her husband."

"Her price is above rubies, the heart of her husband doth safely trust in her."

Of course discipline was stern —

"He that spareth the rod hateth his son" —

but just —

"He that is slow to anger is better than the mighty."

"Train up a child in the way he should go; and when he is old he will not depart from it."

Marriage and many children were highly desirable —

"Whoso findeth a wife findeth a good thing."

"She looketh well to the ways of her household and eateth not the bread of idleness."

"A wise son maketh a glad father."

"Thy children like olive branches round about thy table."

"Children's children are the crown of an old man."

In fact, the atmosphere of Jewish life in Palestine at its best is remarkably fresh and clean and pure. The civilization was a high one, measured not in material riches but in the fullness of the home life, in the relations of man to man, in the purity of religious and political life.

This civilization is reflected in the houses, which had the beauty of simplicity. The Jews built houses very like those of Egypt, which they had come to know so well, but with wide and thoroughly aired chambers. The building had a long rectangular exterior wall of brick, rammed earth, or stone. The door ordinarily was barred with wood. Judging from the terms employed to mark the position, size, and manner of closing the apertures, the Jews must have thought a good deal of their openings. Perhaps one reason for this development is that Palestine was a mountainous country the beauty of which, reflected in numerous phrases of the Psalms, was much appreciated. Daniel in the land of exile knelt to pray "his windows being opened toward Jerusalem." There are at least seven different words in the Old Testament which have been trans-

lated "window." Movable lattices are mentioned in Judges, but even in Genesis we find windows filled with a translucent substance such as polished oyster shells.

Behind the street door was an open court around which were grouped the various rooms. A slightly-elevated terrace probably ran around the court, on two sides of which were household offices, stables, and storage, and on a third the living quarters. As in Egypt, most of the household operations were carried on in the court. The usual house was only one story high but the richer people had two stories. In either case the roof was of great importance, as in all Oriental countries. The prophet's chamber in the house of the rich woman of Shunam suggests good architecture, good housekeeping, and good taste. The single real luxury connected with the house was the cultivated garden. Furniture was simple although the usual chamber of the Jewish house was probably somewhat prettier than the corresponding one in Egypt, for we find countless descriptions of ceilings of cedar painted with vermilion. In later days furniture in the Jewish house became essentially what it is today, but this development properly belongs with the Roman period.

There were rich and poor houses, but the gulf between them in the theocratic Jewish state was not great nor impassible. Nowhere in the Old Testament do we get a picture of human beings crowded into warrens or swarming in promiscuous flimsy huts. Cleanliness and decency and regard for women and children produced substantial, adequate houses, large or small, in city or country.

Altogether, the Jewish house represents the culmination of the growth of the antique Semitic dwelling. Its domestic spiritual life, the one element in all Semitic culture which has certainly had direct influence down through history, was far superior to that of the later Aryan cultures, to which we now turn.

CHAPTER VII

Aegean Homes

THE ARYAN STOCK

THE housing of the Aryan people should be of peculiar interest to us in view of the fact that from the Aryans are descended the Greeks, the Romans, and the peoples of Western Europe.¹

The Aryans probably first lived east of the Caspian Sea. From this area they migrated into Europe and India. Enough of the stock has been marooned at various stages of development to permit a fairly accurate conception of what their development actually was.

For example, there are Turcoman tribes of Aryan descent living in the original Aryan territory who are still nomadic and primitive hunters and whose habitation, a crude *yurt*, must be much as it was seven thousand years ago. These tribes live in tents of skins drawn tightly over light wooden frameworks, and these, while primitive as dwellings, are well advanced as tents, being strongly built and quite often attractively decorated.

In the plains of Pamir, moreover, there is another tribe also of Aryan blood, which has remained in the pastoral tribal stage. In their villages these people build huts of three sides against a hill as a back. The three walls are of reeds, straw, and mud baked by the sun. The huts consist of three kinds, one for beasts, one for storage, and one for men, and all are grouped around a kind of courtyard containing a stone altar.

¹ Iranian and Indian developments, while Aryan in origin, were conditioned by Asia and will be considered in Part III. *Vide infra*.

Such partitions as occur are of plaited reeds. The furniture is very simple, beds being made of herbs covered with sheepskins. Some more advanced houses are made of roughly quarried stones with the interior joints plastered with mud and clay. The people have, however, not mastered the art of corbelling or vaulting in masonry; and the roofs accordingly are of fir bark, reeds, and dried grasses. This style of dwelling we shall see at a much later chronological epoch in the course of the development of the Hall of northern Europe.

By the time of the migrations Aryan villages had reached at least this stage of development, and in their original territory the Aryans had undoubtedly developed irrigation by canals and the cultivation of barley and cotton. Oxen were probably used for transport.²

From the Aryan villages in early times there flowed successive streams of migration. Probably as early as the twentieth century B.C. we find the Aryan hordes battering at the doors of the Pelasgic people who then lived on the fringes of the Aegean. For the invasions the Aryans reverted to their former nomadic ways. Each band of migrants had a long train of chariots filled with women and children, household goods, building materials. The chariots were drawn by bullocks and asses, and the train was accompanied by herds of sheep. Accordingly its progress was slow and intrusive rather than conquering. The irresistible pressure of tribe after tribe flowing down the Danube into the plains of Hellas simply overran the country by sheer weight of numbers. Thus the conquest was usually one of assimilation.

² The general characteristics of the Aryan peoples have been aptly expressed by an unidentified French archeologist, presumably Garnier, quoted by Henry R. Aldridge [*"The National Housing Manual"* (National Housing and Town Planning Council—London, 1923), p. 33]: "The Aryans recognized the value of blood relationship and the sacredness of marriage ties. They called upon the Supreme Being in the same name that it is possible to hear in the Temples of Benares and the Christian Churches of Europe. With the possible exception of kings and chiefs, polygamy was forbidden, and a religious ceremony accompanied the union of married people and constituted the solid base of family life."

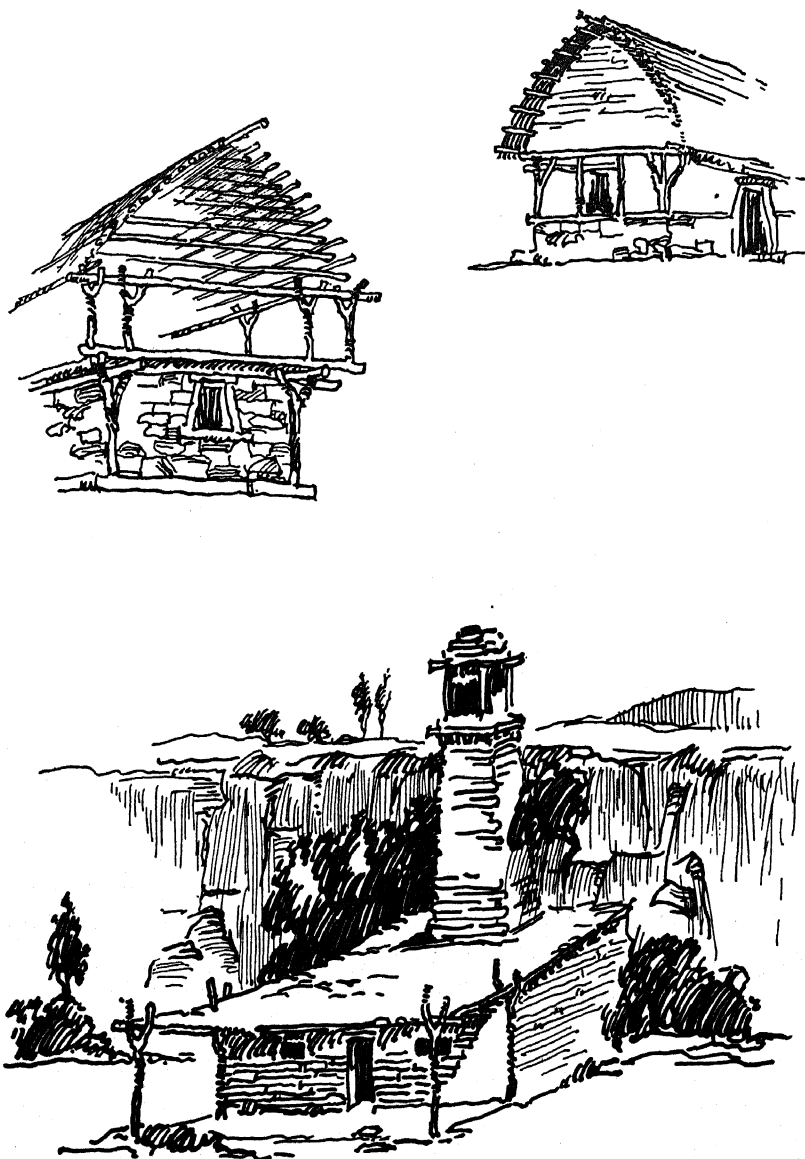


FIG. 34. ARYAN HOMES OF THE UPPER INDUS

The Pelasgian peoples were probably of Semitic stock. By the time of the Aryan invasion they had attained a fairly high degree of civilization. They practised agriculture and constructed aqueducts and canals. Their towns were as a rule on sites which could be defended, such as a rocky plateau or a promontory. At the heart of the town was a citadel with the principal houses near at hand, then the lesser houses, and finally an exterior wall. The structure of their buildings and of their general life was probably not very different from that we have observed in the great Semitic civilizations, although cruder.

The last resistance of the Pelasgians to Aryan invasion is probably the subject of the Homeric epics and it is evident that before all was put to the supreme test of battle there had been much intercourse between individual Pelasgian Trojans and Aryan Greeks. Accordingly we may regard the Homeric heroes as representative of the first Aryan classical civilization worth considering and indeed surely the first one about which we have sufficient information to warrant a study.

HOMERIC

Let us remember at the outset that Homer wrote or sang for people who were acquainted with houses and so he simply sketched them in as a background. The civilization of the time was feudal. There were wealthy chiefs around whom clustered a horde of retainers, with the duties of the two groups apparently much like those of our Middle Ages. Society had a strongly aristocratic constitution. As might be expected from our description of the Aryan invasion, the leaders, long-haired Aryan Achaeans, differed from the common people in rank and usually in race. In government there was an assembly but its duty was solely that of stamping approval on the acts of the chiefs and it was not expected to disapprove. Economic ethics were not highly developed and piracy was a sufficiently laudable way of gaining a livelihood. In fact the clue to the ethics of the period is well given in the character of Odysseus, who

certainly combined the trickery and canniness of a New England, a Scotch, and a Jewish trader.

In family relations, however, the Homeric peoples may be admired. They seem to have been far in advance of their successors, the Attic Greeks. Baikie³ tells us that a sort of patriarchal simplicity pervaded the atmosphere. Nausicaä, the daughter of wealthy King Alcinoüs, did the washing as a matter of course. Odysseus in addition to being a mighty chieftain was a good ploughman, carpenter, and shipwright, and did not hesitate to pursue these trades. Women were well treated

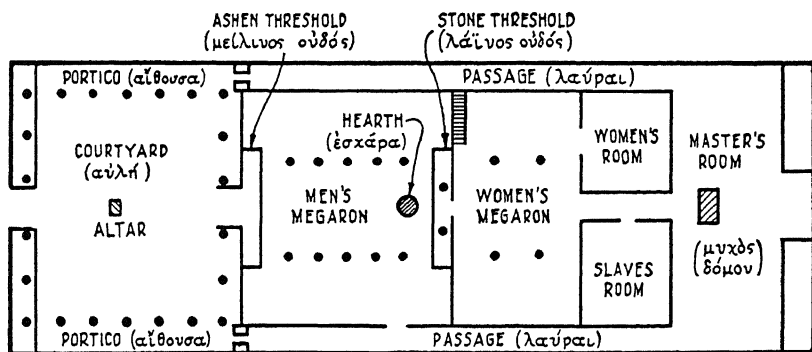


FIG. 35. PLAN, CONVENTIONAL HOMERIC HOUSE

Jebb, *Journal of Hellenic Studies*

as equals, and were not secluded as in later Hellenic society. There was a highly developed code of manners. And though such things as diet and clothing were rudimentary, the arms of the heroes, at least, displayed a magnificent development of art.

The Homeric palaces were commodious, the houses small and often shabbily kept. For a long time there has been a traditional Homeric plan which is now looked at askance by many leading archeologists but which with present knowledge cannot be thoroughly disproved, and so is reproduced here at least for speculative consideration. The house was entered by a gate in

³ Baikie, the Rev. James, "The Sea-Kings of Crete" (A. and C. Black, London, 1910), p. 26.

the wall of the courtyard. At the farther end of the court was a portico, in the center of which was a door leading over an ash threshold into the *megaron*, that contained the hearth. This was the general living room. At the farther end of this in turn was another door leading over a stone threshold to the women's *megaron*, to which they retired for the night. Odysseus' room in this reproduction is shown at the extreme end of the house.

In the light of later Hellenic development the free use of the common room or *megaron* by women is important. Nausicaä finds her mother sitting by the hearth with her hand maidens spinning while her father is about to go out. Iris finds Helen weaving in the *megaron*. The house of which we know most, that of Odysseus, is unfortunately somewhat out of focus, with the master gone and a mob of suitors in command. Penelope therefore does not occupy the *megaron*. Having lost control of her house she prefers to seek retirement in her own quarters.

When guests came beds were provided under the gallery — "And Argive Helen bade her handmaids set out bedsteads beneath the gallery." (Odyssey IV, 296-7).⁴

Some of the houses were beautifully decorated. Witness the passage (from the Odyssey VII, 81, *et seq.*):⁴ "Meanwhile Odysseus went to the famous palace of Alcinoüs and his heart was full of many thoughts as he stood there or ever he had reached the threshold of bronze. For there was a gleam as it were of sun or moon through the high roofed hall of great-hearted Alcinoüs. Brazen were the walls which ran this way and that from the threshold to the inmost chamber and round them was a frieze of blue, and golden were the doors that closed in the good house. Silver were the door posts that were set on the brazen threshold and silver the lintel thereupon and the hook of the door was gold. . . ." Finally there was a touch very like that of the northern Hall — "And within were seats arranged against the wall this way and that from the threshold even to the inmost chamber. . . . There the Phaeacian chieftains were wont to sit eating and drinking." The metal described was pre-

⁴ Butcher and Lang's translation.

sumably not solid but overlaid. Such incrustations were well known in Egypt, Babylon, and in Palestine during the reign of Solomon.

Finally for one more glimpse at once at the versatility of Odysseus and at the color of the Homeric dwelling, let us look

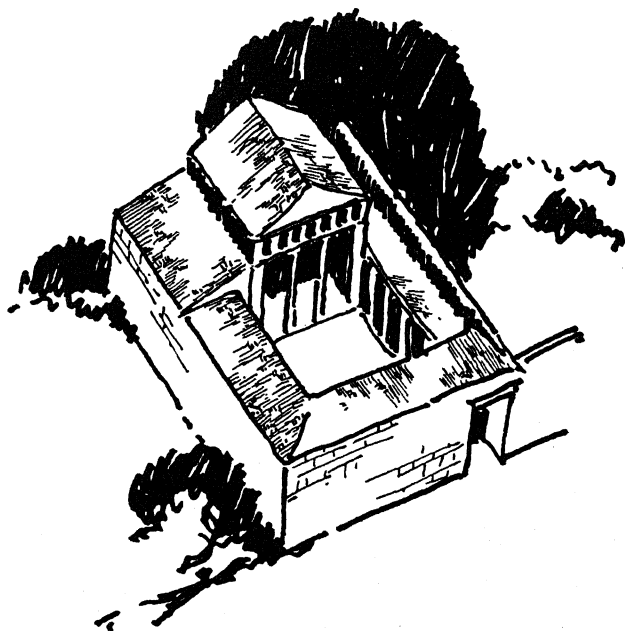


FIG. 36. GREEK HOUSE AT PRIENE IN ASIA MINOR

After a restoration by Weller

again at the Odyssey. Having killed off the suitors it becomes necessary for Odysseus to convince Penelope of his identity, which he does by describing the bridal chamber :

“There was a growing bush of olive, long of leaf and most goodly of growth, within the inner court, and the stem as large as a pillar. Round about this I built the chamber till I had finished it, with stones close set, and I roofed it over and added thereto

compacted doors fitting well. Next I sheared off all the light wood of the long-leaved olive, and rough hewed the trunk upwards from the root, and smoothed it around with the adze, well and skillfully, and made straight the line thereto and so fashioned it into the bed-post, and I bored it all with the auger. Beginning from this head-post I wrought at the bedstead until I had finished it, and made it fair with inlaid work of gold and silver and ivory. Then I made fast therein a bright purple band of oxhide.”⁵

Evidently Odysseus in the misty past had little to learn about tools or their use from the modern carpenter.

MINOAN

Leaving the colorful if somewhat tenebrous life of the Homeric heroes, let us turn to the next manifestation of Hellenic culture, the kingdoms of Crete. Here we are no longer confronted with the necessity of reconstructing shadowy image from poetic lore but may build on the work of archeologists. With each passing year they throw brighter light on this marvelous civilization of the Aegean, a civilization perhaps less intellectually perfect than that of Athens, but from the point of view of lusty joy of living far superior to the long-accepted paragon.

Crete in classical times was submerged by disaster but in the pre-classical period, with Egypt and Babylonia as the great land empires, it stood in somewhat the same strategic position that England has long had with a famous navy and long eras of peace for domestic development.

During the highest period of their development, from 2500 B.C. to the sacking of Knossos, probably by the Greeks in 1400 B.C., the Cretans appear to have looked southward rather than north, and their relations with the land empire of Egypt seem to have been fairly close. Every evidence shows that the race was powerful and self-respecting with a tendency to develop quietly and steadily. Its sea power preserved its all-essential trade routes around the Aegean and kept every enemy

⁵ Butcher and Lang's translation.

away from its shores. The empire was not particularly war-like and the government was strong and pacific. There is every reason to believe that the rulers permitted their subjects quite free access to the palace. In fact it is customary in Crete to find all rooms open and free of circulation and privacy was apparently little esteemed. "Privacy was evidently no part of the scheme, the Cretan lived too fast and too intensely to feel the need of solitude, and there is hardly one room in the whole palace scheme which is entirely cut off."⁶ Such lack of solitude indicates why Cretan life never attained the intellectual plane of the Athenians, but it is not just to say that the Cretan civilization was inferior.

The economic organization of the community seems to have been uniform. The nation was made up of what we may call bourgeoisie if we are careful to remove from that word any of its unpleasant later-day connotations. Excessive wealth was rare and the lower classes had rather more than is usual in any nation. The houses of artisans were ordinarily much larger than in other nations of antiquity and, except for the palaces, the houses of the wealthy much smaller and less ornate.

The chief deity was a goddess, on the whole beneficent; but that she had an awful side is indicated by her association with the lion and the snake. Sacrifice was common, usually of a bullock, but human sacrifice is indicated by nothing but the Theseus legend. A goddess as head of the religion usually indicates a fertility cult, of which the bull is also a frequent emblem. Naturally the principal ministrants of the goddess were feminine and although there were priests, the priestess was superior. This worship and predominance of the priestess, together with the freedom in the houses, indicate that the Minoan Empire gave woman a high place in its scheme of things.⁷

⁶ Rider, Bertha Carr, "The Greek House" (Cambridge University Press, Macmillan Co., New York, 1916), p. 104.

⁷ "We are astonished to see the almost incredible athletic capacities of the commoner women, as they sport with the bull in a manner which makes the modern corrida de toros . . . but a travesty." — Rider, "The Greek House," p. 103.

Minoan civilization made religion, though ritualistic, a private affair. It is extraordinary that the excavations made on the island have revealed no temples of any importance. On the other hand, nearly every house had a private shrine. Such individual religious practice shows high spiritual development.

Life was pleasant in Crete with fresh air and sunlight, ample play times, the women joining in athletics, and variety in choice food, skillfully prepared. Many arts were practised and a high degree of craftsmanship was attained, particularly in pottery and the working of metal.

The building materials were principally stone. Gypsum, which occurred plentifully on the island, was widely used. In the architecture we find the characteristic Cretan freedom. The buildings are full of great open spaces, terraces, and colonnades. Windows are plentiful and large, and in the bigger buildings interior windowless rooms had a regular system of lighting by means of wells. Light at night was provided by lamps of stone on tall bases in which several wicks floated on a basin of oil.

Considerable thought was given to sanitation and bathing, as might be expected from a people who were proud of their bodily well-being. Drainage was remarkably thorough and perfect. The drinking supply of the palaces was brought through sectional terra cotta pipes with cemented joints and stop ridges. There were runnels for draining the rain water, and the floors of light wells and broad platforms were made gently sloping. The drains connected directly with sewers. In at least one palace the water supply system was paralleled by a system of pipes for oil. A number of bathrooms have apparently been found but curiously enough there is no provision for filling or emptying the tubs.⁸ There were systems of latrines and other conveniences of a sanitary nature staggeringly modern in their appointments.

Despite poorer textiles than those which permitted elabo-

⁸ This could well have been done by slaves but the lack of this equipment in a nation which had developed piping tends to make the bathroom somewhat speculative.

rate room decoration in Egypt and Babylon, the Cretans were by no means spartan in their interior appointments. The gypsum walls were frequently colored, often plastered, with excellent tinting or even mural paintings. Occasionally the walls were lined with wood but this was an exception rather than a rule. Floors were dry and often made of gypsum slabs. The palaces show a remarkable diversification of use for rooms, kitchens, dining-rooms, armories, women's retiring rooms, and the like.

The Minoan town was in appearance far more modern than any of the Greek towns of the classic period. The streets were fronted with long rows of windows like those of any modern suburb. The less expensive houses were generally of sun-dried brick erected on lower walls of stone. Some were plastered and timbered, the round beam ends showing in the frontage. Within doors the walls were finished with smooth plaster painted or unpainted. The floors were flagstones and cement or earth rammed very hard. Some of the Knossian plaques show windows filled in with a red material which is now assumed to have represented oiled and tinted parchment. Heating was only of slightly greater importance than in Egypt and there is no advance in Crete over the Egyptian brazier.

The early Cretan house was evidently a single cell, elaborated by the addition of another entered from the first. The prodomos type with a rectangular chamber entered through a vestibule was only a development of this. Then came the oblong megaron with two vestibules and finally courtyards and corridors.

The house found on the islands of Pseira by Seager is as typical a Cretan plan as might be cited. A narrow passage leads into a vestibule from which through a triple doorway one enters the megaron. In one corner there is a small rectangular construction, with remains of plaster and an outlet, which is presumed to have been a bath. Beyond, a stone stairway leads from the megaron to the upper floor, where the principal living rooms must have been.

The great buildings of the palace period were so magnificent as to obscure the Cretan towns which flourished and reached their fullest development either before or after the great palace epoch. Some of these towns are, however, of great interest and

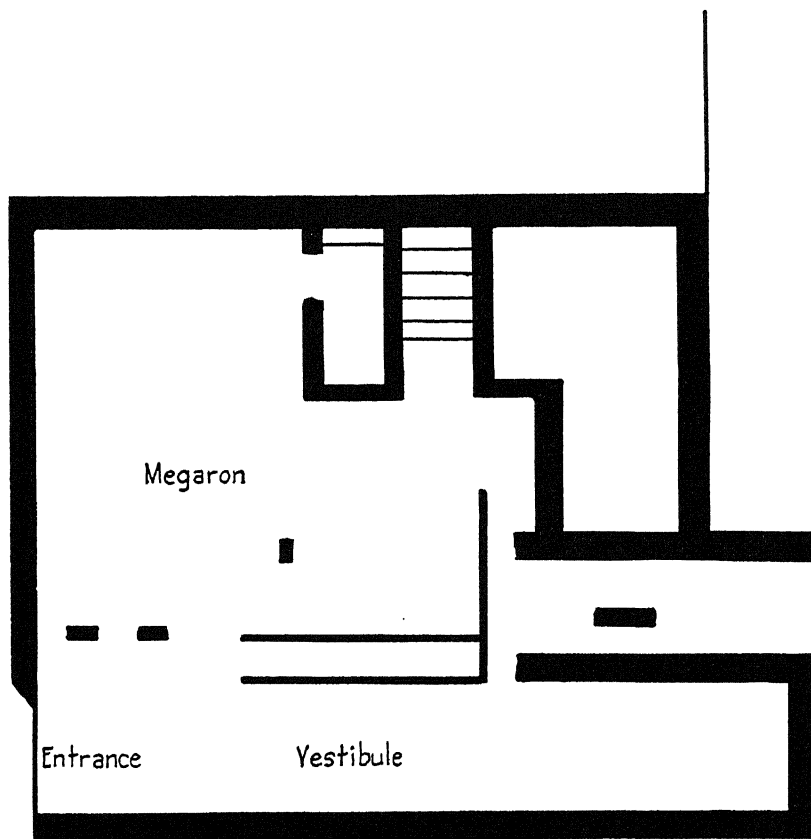


FIG. 37. PLAN, HOUSE ON THE ISLAND OF PSEIRA
After Seager, "Excavations in Pseira" (Univ. Museum of Philadelphia)

more significant to our purposes than the palaces themselves. Palaikastro, for example, had rectangular blocks with streets from five to ten feet wide. The houses faced the streets in rows with staircases opposite their entrance doors. They had common party walls, but were irregular in plan (Fig. 38). The fronts

often were setback. These houses were far from cramped. In the plan at the left of Figure 38 the *megaron* is sixteen feet square with four pillars at the corners of an unpaved square space, probably the hearth since it has a lantern above for lighting and ventilating the *megaron*. At the north end between it and the street is another room entered only from the *megaron* itself, which in turn is entered from a corridor giving on the street. The plan at the right is of a more elaborate house found on the cliff in the same city.

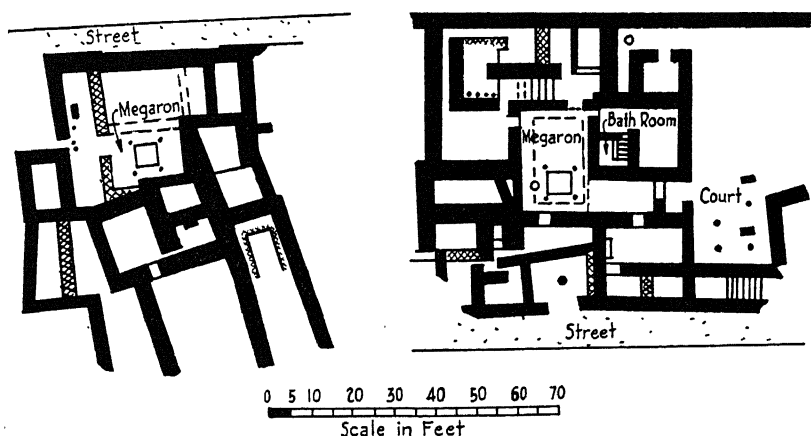


FIG. 38. PLANS, HOUSES AT PALAIKASTRO

From Rider, "The Greek House." Courtesy British School of Athens.

Gournia was a fishing town and had no walls. The streets were paved with stones and were five feet wide. They ascended a steep hill to different levels by means of steps. The doorways of the houses were flush with the streets and were entered through vestibules, which often had cellar steps to a basement. The upper stories were supported by wooden columns. Lest it be supposed that Crete was always peaceful we may mention, in passing, Kato Zakro on the east coast, a town set among the cliffs with walls for fortification where the natural rocks failed.

Finally, in leaving the remarkable civilization of Crete, let us pause to consider the carpenter's kit found in Gournia, apparently left in a hurry by its owner. This kit is wonderfully

complete and contains bronze saws, both long and short, stone and wood chisels, awls, nails, files, and axes, all very like those of today. Once more we may note how like to our own were the building methods and tools of antiquity.

ATTIC

The word "Greek" is often used to refer exclusively to the Periclean Age in Athens or to Athens and the developed civilizations of the Peloponnesus. We should remember that this is a very restricted use and that actually, except for the fourth and fifth centuries B.C., Greece proper formed a small and frequently unimportant part of the Greek world. We have already discussed two facets of civilization which may be termed Greek, the Homeric and the Cretan.

But rich and complex as is the history of the Greek city states, our study of the Greek house need not travel down the centuries. As in Egypt we seek a composite picture and the Athenian home in the time of Pericles is a focal point.

The climate, the political structure, and the religion of Athens were quite different from the same factors in the earlier civilizations. Athens is farther north than any of the civilizations we have heretofore discussed. Snow does occasionally fall in Greece and in any case during the winter season there are frequent periods of damp cold. Thus for the first time in our study we encounter a climate which requires positive shelter and so develops the hearth, that center of the northern home.

In antiquity Greece as a whole never attained the dignity of a nation. At best it was a group of mutually distrustful city states in which were periods of tyranny, of oligarchy, of aristocracy, and of pure democracy. Democracy for the citizen existed side by side with slavery. The Greek temper was not severe to the slave. The whole theory of the Greek freeman's existence was that the house should be run by his women and the work done by his slaves, thus leaving him free for discussion and politics. The government was one of town meeting and every male Greek was prepared to take part in the discussions

and if necessary hold office on rather short notice. Civic duty was apparently a really vital concept in Greece.

Of Athenian family relations little good can be said. They were one of the most conspicuous dark spots on an otherwise brilliant civilization. The Athenian's relation to his woman-kind was little better than that of very primitive man, and far inferior to that of the Egyptian, the Babylonian, the Cretan, or the Homeric hero. Marriages were arranged by parents and after marriage women were kept strictly at home. All Greek girls were thoroughly trained in the domestic arts and seem to have been excellent housekeepers. With little to do except care for the household, and confined to the house most of the time, the Greek wife must have spent a great deal of time on her toilet. She took frequent baths and used cosmetics freely. Women of the middle classes went to the public baths at certain specified times, probably in the morning. The man spent little time at home and when he had guests his wife was expected to retire. She rarely knew much about her husband's private affairs or about political matters. The law afforded her little protection. Fidelity was exacted of the wife although there was no such restriction on the man.

As a result of this intellectual servitude of the wife the only Athenian women who had any real mental development were the prostitutes or *hetaerae*. These women — dancers, singers, musicians, and simply attractive females — were an important part of almost every masculine entertainment. At the banquets, the theatre, they sat beside the men. By constant attention to the flowing conversation about ideas which was so important in Athenian society they necessarily became versed in the politics, art, and science, of the period and were vastly more stimulating to the Athenian men than their sheltered wives.

An Athenian man lived a remarkably free and easy life. A description of his day will not be amiss.

The citizen rose early and promptly took a bath by having a slave pour water over him from an ewer, using a variety of fuller's earth for soap. Only people such as Socrates who lived

very simple lives washed at the public well. Breakfast, taken with the wife, was a scanty affair of unmixed wine⁹ and bread. Artisans then went to their trades but the majority of the citizens promptly started out on a talkative day, visiting their friends, practising gymnastics, or going to the barber to have their hair arranged and their beards cut. The barber shop was an important place for the diffusion of news.¹⁰

The second quarter of the day was devoted to visiting the market, where there were shady booths and shops in which to loiter in the summer, and in the cold weather heated workshops where meetings were often arranged without any intention of buying. The fireplace of the shop thus fulfilled the same function that the stove in the country store did in American life and undoubtedly many important questions of state were settled over the fire. The man did not, however, spend this entire period in gossip. He took a slave with him and did the marketing until a very late era, when this was not considered correct for a man of consequence and was left to a slave. The wife apparently never took care of the buying. Perhaps she was not even trusted with any money.

At midday the market was over and the man went home to a light lunch with his wife. After lunch he took a siesta or read, engaged in some other intellectual pursuit, gambled, or dawdled about in one of the many bathing clubs, which were full at this time of day. Before dinner, in any event, he made a visit to the public baths, which gradually developed into gymnasia and where the drinking of the day might seriously begin, accompanied by singing, which, however, was considered a trifle vulgar. Toward sunset the men returned home for the principal meal or went to a friend's house. If they went home alone, they dined quietly *en famille* and then went to bed, as early rising was the rule. If they went out, however, it was to a stag affair with entertainment provided by *hetaerae*, and usually prolonged

⁹ The Greeks customarily diluted their wine with water.

¹⁰ For example, the news of the defeat of the Athenians in the Sicilian expedition was first told by a messenger in a barber shop in the Piraeus.

drinking. Of course there were variations in this routine. A man who had political position or estates in the country had to take care of his business at some time. A citizen might at times go to a theatrical performance on the afternoon of a festival or attend a meeting of the *demos*.

The inns were, as a rule, bad and the charming custom of "guest-friendship" grew up, affording a traveler in a strange city opportunity to be put up with great comfort at a home of a man of his class. Hospitality was much esteemed among the Greeks. A guest, arriving, was promptly proffered a bath.

In most families the atmosphere was a beneficent mixture of severity and gentleness. Children were apparently well treated. They had many kinds of toys; noisy toys, wheeled toys, dolls, doll utensils, and the recently revived Yo-Yo ball, swings, seesaws, balls.

In the Ionic states education was a private duty of the parents. The Doric boys on the other hand belonged to the state. In Athens, after the early gymnastic training, boys were entrusted to a slave who carried their books and guarded them and presumably had some authority over them on the way to and from the schools which a number of parents had clubbed together to provide. At the schools they were taught music, writing, mythology, gymnastics, throughout a long day, with liberal use of the rod. Later they read the poets, learned geometry, mathematics, astronomy, and occasionally philosophy. The purpose of the teaching was to fit the boy to be a citizen useful to the state in peace or war, and in public or private life. Of the education of the girls we have already spoken.

In Sparta the men lived even more apart and did not even eat their ordinary meals at home. They had eating clubs or messes, where there was drinking though not to the extent common in Athens. The women ate at home with the small children but the older boys were taken to their fathers' clubs rather early and remained there until they were old enough to join their own mess. No Spartan citizen could consider pursuing a trade or a craft.

Thus the houses of the Greeks were by no stretch of the imagination their homes. They really lived in the *agora*, the theatre, the baths, the temples.

These temples filled an important place in community life. According to the Greek theory the gods must be honored with rites and sacrifices performed daily by the priests. The citizen visited the temples only for special acts of intercession and thanksgiving and to consult the oracles. Special feasts such as the Panathenaia were the occasion of great processions and general observance, by games and spectacles, centering round the temple of the particular god celebrated.

Nature had provided Greece with fairly rich building materials. There was ample supply of stone and the stone workers were able. Sun-dried brick was well known from the earlier civilizations. There was more usable wood than in Egypt or Babylonia. Accordingly the Greek was less restricted in his building than any other of the peoples of antiquity before the Romans. The well-known glories of the Acropolis, the theatre of Dionysus, the fortifications, might lead us to think of Athens as a city beautiful throughout. But as a Greek writer¹¹ said, "The majority of the houses are mean but a few are commodious. If strangers were to come upon it suddenly, they would scarcely believe that this is the talked-of city of the Athenians." In fact, this meanness of the home was considered a virtue even before the Golden Age. Thus Demosthenes speaks of the great men of the Persian wars: "In public, then, they completed for us edifices and ornaments of such beauty and magnitude in temples and the dedications set up in them, that none of their posterity has now the means of surpassing them, while in private they were so modest and so thoroughly constant to the principles of the constitution that those of you who know the kind of house that Aristêides inhabited and Miltiades and the other illustrious men of that time, realise that it was no more elaborate than the houses of their neighbours."¹² In

¹¹ *Ps. Dicaearch*, I. i. Translated by Rider in "The Greek House," p. 210.

¹² Rider, "The Greek House," p. 222.

addition to being squalid the city as a whole was ill-planned. Certain sacred spots, fortifications, and steep hills prevented geometrical plans. There were a few parks in outlying areas. The theatre of Dionysus on the outskirts with a seating capacity of 30,000 had no easy avenues of communication with the city.

The main boulevard leading up to the Acropolis was narrow, the Panathenaic way so narrow as to hold only five people abreast or one chariot, and the rest of the streets were tortuous and unpaved, dusty or muddy, with no sidewalks. Slops and refuse were poured out of doors or windows with a yell of warning.¹³ There was no public cleaning of the streets although the owner could be forced to clean up if conditions became too noisome. The houses, closely built together of wood or stone, sometimes with projecting upper story and occasionally with a garden in front, were far from distinguished architecturally.

In spite of the mean condition of their own town, the Athenians under Pericles may have originated the idea of town-planning and intelligent discussion of the subject seems first to be found in detail in Aristotle. Among the ideas which were later adopted with more success by the Romans are (1) the use of hillsides and water fronts, (2) the use of the regular curve in street layout and the recognition of contours for the same purpose, (3) lower level streets for basement delivery or at the rear of shops instead of at the front, (4) routing of wheeled traffic through the city by certain streets through the use of grooves defining vehicular circulation, (5) limitation of streets for pedestrian use by steps (the device, if not the purpose, was old in Crete), (6) provision of certain specific points for turning vehicles around, (7) zoning according to function. Actual improvements in the city were probably too expensive to be possible.

Rider traces the known rectangular house plan from a probable early circular one through an oval type. Much archeological reconstruction is necessary for establishment of this theory

¹³ A custom in Paris and London of the Middle Ages and in Edinburgh even more recently.

and it has no place here but in passing it is worth while to present her plan of an oval house at Chamaizi.

In Attic times, however, the houses were essentially rectangular. As we have said, their external appearance was poor. So too were the internal accommodations. The Athenians seem to have cared little about the architecture of private houses, perhaps because home life was of secondary importance. The homes

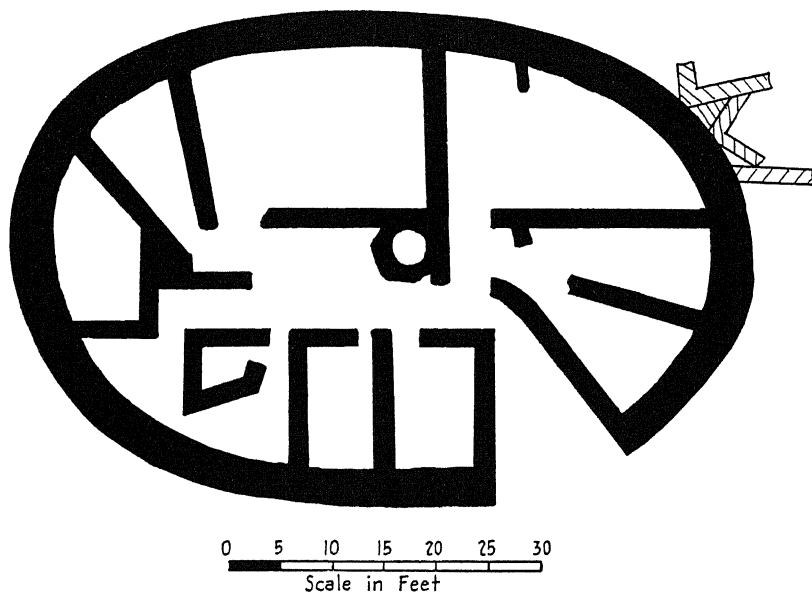


FIG. 39. PLAN, OVAL HOUSE AT CHAMAIZI
From Rider, "The Greek House"

of their ancestors would be altered from time to time and undoubtedly there were developments during several centuries. The restriction of the freedom of women made the *megaron* or general living room useless, and it is rarely found in the Athenian house. In fact, there is a general tendency toward cramped quarters and a minimum of rooms. Private houses were in the main of one story although there is evidence of blocks of three- or four-story tenements for the poor. At most, the better houses had two stories. Where possible houses faced

south. A front door on the street sometimes opening outward and guarded by a slave porter led in a better-class house into an open hall (*peristylum*) corresponding to the *atrium* or Rome. The women's rooms were behind the men's and reached by a separate corridor if the house was of one story, but if of two the women lived upstairs. An index of the morality of the time is given by the elaborate locking devices to keep the men out of the women's quarters. There were no windows on the ground floor. The upper windows were provided with bars or wooden shutters. In the poorer houses slaves slept with the masters according to their sex. Sanitation we have indicated in the description of the Greek street and the bathing customs. It is interesting to note, however, that the Greeks apparently had a rude shower bath, for such a device appears more than once on the vases from which so much data concerning Greek life has been obtained.

The Greeks appreciated the need of ventilation. Hippocrates is said by Varro to have preserved several Greek cities from epidemics by a proper adjustment of the windows or apertures of dwellings of those cities to secure a constant draft. Much later Celsus recommends a large room for a person ill of fever. However, the great deficiency of the Greeks in ventilation was due to their poor heating apparatus. The chimney had not yet been developed, and like the Egyptians the Greeks eliminated the unpleasantness of vitiated air by perfumes. Heating in the better houses was by pans of charcoal, which at least avoided the nuisance of palpable vapor but at the same time probably fouled the air more than a smoky fire. The lighting of the apartments by open lamps also did not help the ventilation. The house plan reconstructed by Rider from contemporary evidence and presented here as Fig. 40 is imaginary but is probably a good reconstruction. It should be remembered, however, that such a house as this is far above the average dwelling of Athens in the fifth century B.C.

Of course there were a few houses belonging to rich people that had some merit as dwellings. One is described by Al-

dridge,¹⁴ and is not unlike the Rider plan. The house was two stories high. The wall facing the street had only one opening, the door. A vestibule led to the court, which formed the central feature of the house and in which guests were received and meals served, weather permitting. In very rich houses the court

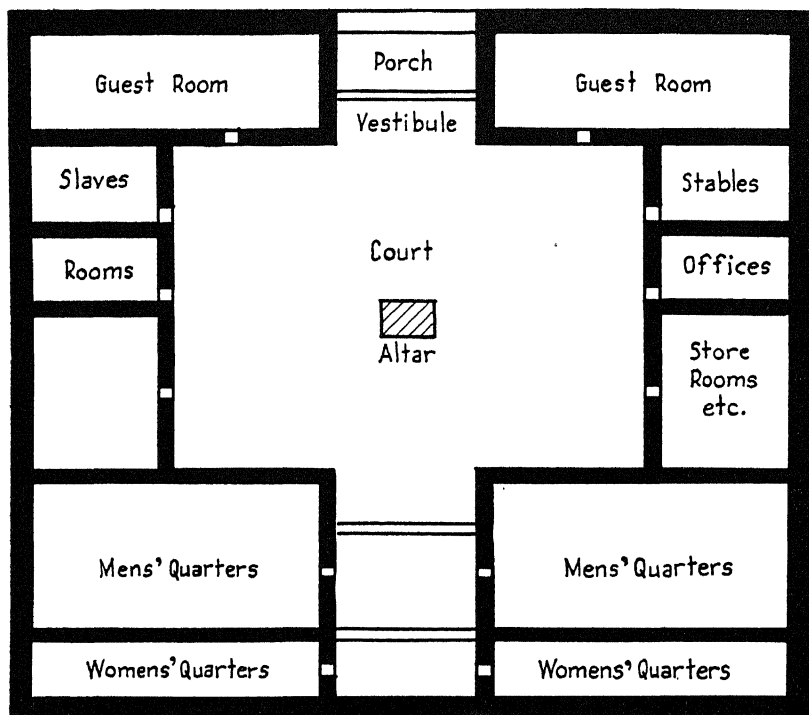


FIG. 40. PLAN, IMAGINARY HOUSE OF THE 5TH CENTURY B.C.
From Rider, "The Greek House"

was surrounded by a roofed peristyle. In the center of the court was the family altar to Zeus and sometimes there were minor altars in the corners. The family buildings were at the end of the court opposite the vestibule. On the sides were storerooms, stables, offices. The rooms adjacent to the street were devoted to guests. Sometimes the guest accommodations were large.

¹⁴ Aldridge, "National Housing Manual," p. 43.

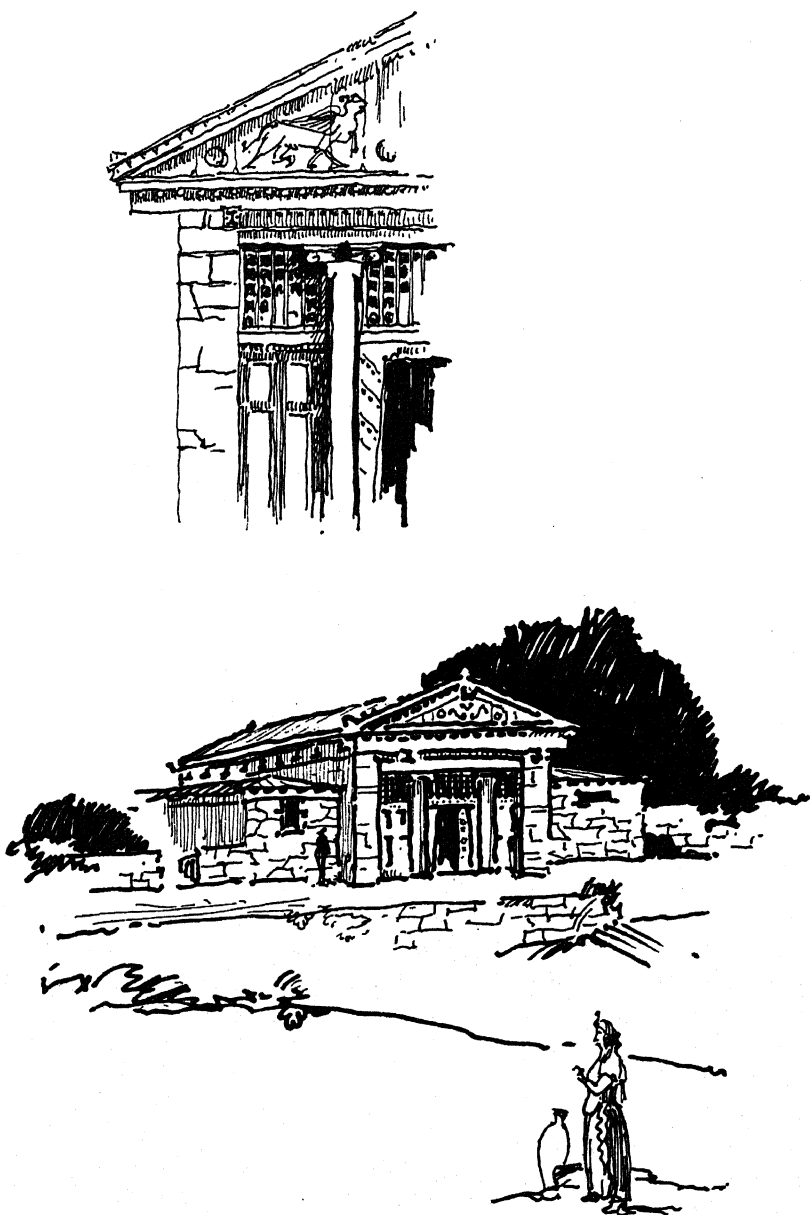


FIG. 41. AN IONIAN HOUSE

Gellias of Agrigentum is said to have entertained five hundred guests at the same time. The family rooms were divided into two parts, the *andronitide* or men's quarters and the *gynaeceum* or women's and children's quarters. In a two-story house the latter were located on the upper floor and in any case were

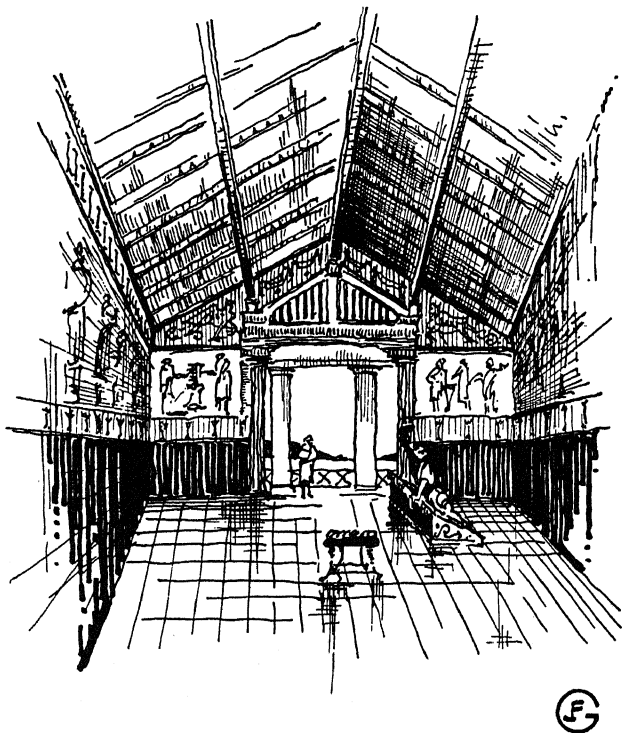


FIG. 42. A HELLENISTIC TRICLINIUM

locked at night. Other rooms were used for servants, cooking, eating when the weather was inclement, weaving workrooms, in which most of the family clothing was made.

It was not until after the Macedonian conquest that the house of the rich Greek improved. Even then the type remained the same but there was great change in decoration. Rich stuffs were brought from the Orient by the conquerors. Marble and mosaic were used lavishly. All the arts were made to contribute to

luxury. Wall paintings, statues, pottery, vessels of silver, divans covered with rich stuffs, were common.

The very poorest classes apparently rented apartments but the cheap character of the Greek house made rent an unimportant item in the cost of living. Houses could be rented for as little as three *minae*¹⁵ per annum and were sold for from thirty to fifty *minae*. Socrates, who was a very poor man and whose entire property has been valued at five *minae*, none the less owned a house.¹⁶ At worst the dwellings of the poor were squalid cabins of stone or brick, with floors of earth and roofs of reeds and branches. Galen, born at Pergamos A.D. 130, could write: "In all the villages of my country the houses are large. In the middle of the house is the hearth on which one lights the household fire. Not far from the fire are the stables of the beasts. They are placed in the outlying parts of the dwelling left and right, or sometimes on one side only. Contiguous to the hearth and facing the door there is a store. Such is the type of house in which the peasants dwell — at least those who are poor."¹⁷

So the Greeks, admired of the intellectuals, whom we praise for perhaps the purest sculpture and architecture that the world will ever know, for philosophy and lofty science, and for democratic government, were in this far from admirable; that the position of their women, the tenor of their family life, the physical and social character of their homes, were inferior to those of civilizations which preceded them. Rome is frequently compared with Greece and almost always unfavorably. But in everything which concerns domestic value we shall find Rome far in advance of Athens. And to Rome we must now turn for the conclusion of our study of the antique homes of man.

¹⁵ A very small amount in 1933 dollars.

¹⁶ The question of the amount of Socrates' wealth is disputed. There appears to be no contemporary valuation. Socrates himself, offering an alternative to the death penalty, said he could raise a fine of one *mina*. Aristotle thought one *mina* a fair ransom for a prisoner of war. Socrates' friends managed to get together a fine of 30 *minae*. Lysias said this amount was a handsome dowry for a girl of moderate fortune.

¹⁷ Aldridge, "National Housing Manual," p. 42.

CHAPTER VIII

Roman Homes

IN considering the Roman house we cannot, as hitherto, omit tracing the course of history, for in Rome a few centuries wrought great social changes and concomitant changes in the home.

The most plausible thesis as to the racial constitution of the Roman people is that the stock was a fusion of Latins, Etruscans, Sabines and probably Volscians, the first of these a race from across the sea, the second a Mediterranean stock, and the last Aryan invaders.

The Etruscans, living north of the Tiber, were essentially an agricultural people who drained the marshes and built canals and founded some cities. Their government was aristocratic and feudal. Their earliest houses were single round rooms, of plaited reeds and rushes plastered with dried mud and moss. In them the families lived in haphazard fashion. The doors were rectangular and closed by wooden panels turning on rude hinges. As a rule they served also as windows but if there were any true windows they were small and high up. Furniture was simple, with beds of moss covered with skins on the floor. The wealthier and more advanced Etruscans had homes much like those of the Pelasgians, with a central court and vestibule, opposite which on the far side of the court was the conjugal chamber although the court was presumably less open than in more southern Troy. Before the Aryan invasion the Etruscans had made considerable progress in the art of mural painting, the use of metal for decoration, of colored stones for flooring. From early times they ate luxurious repasts served on vessels

and platters of precious metal. But despite a considerable craftsmanship in metal work and painting, Etruscan architecture was never good.

The earliest history of the city of Rome, legendary as it is, tells us of a monarchy that in a few generations became a republic. Two consuls, elected yearly, a Senate composed of the heads of patrician families, a sturdy plebian class demanding and obtaining popular reforms, a citizen army with foot soldiers and a cavalry of the richer class — these formed the structure of a state which in some four centuries extended its dominion over all Italy south of the Alps, defeated the great sea power of Carthage in three exhausting wars, repulsed invading Teutonic tribes, and began to control the Mediterranean world. The control of large armies and the spoil of conquered provinces pitted ambitious generals against each other; and Marius, Sulla, Pompey, and at last Julius Caesar, waded through bloody civil wars to dictatorial power. The military title *Imperator* as held by Augustus Caesar and his successors indicated the head of a vast and orderly empire wherein law and justice, peace, and the arts of civilization, flourished for some three hundred years.

During the kingdom and the very early republic agriculture was a profession of the utmost dignity. Every schoolboy remembers the story of Cincinnatus, twice called from his plough to lead the Roman army. Vergil, Pliny, Cato, all give advice to the husbandman and the high state of the art may be noted from Vergil's recommendation of crop rotation, fertilizing, cross ploughing, and seed selection. Naturally, a nobility of wealth arose but the wealth was one of acreage, the patrician was essentially a good farmer. As time went on and the conquering legions opened up greater and richer territories for Roman exploitation, the farms of Italy were less attractive. Compared with the glittering and profitable life of the armies the humble rural existence paled. The nobles ceased to till their own farms and went abroad as exploiters, tax contractors, governors. Returning, rich beyond avarice, they paid little atten-

tion to their ancestral estates, preferring to build huge villas near Rome. The rapid rise in national wealth was accompanied by a change in its distribution. Due to its military successes the Roman state was early able to dispense with direct taxation of its citizens but by far the greater share of the plunder of conquest went to individuals. A middle class arose of publicans, negotiators, money-lenders, foreign importers, who were scarcely less wealthy than the patricians but had less taste in the spending of their means. Meanwhile the *plebs*, once content in the country, migrated to the cities in great crowds and rapidly became a *plebs urbana*, sinking into the condition of an idle proletariat with sufficient voting power to force public provision of grain and amusement, *panem et circenses*.

Economic decay was accompanied by social degeneration. The strength of the early Roman state was due to simple virtues; a fine constitution of patriarchal society, with high regard for womankind and a censorship that prevented any flagrant deviation from the accepted high moral standards. At first, contact with the more intellectual Greek society was stimulating but the new philosophical doctrines were in the end unsettling. The empire brought to Rome a cosmopolitan society in which racial distinctions were gradually eliminated through extension of the citizenship and manumission of slaves. The change in private morality was perhaps even more marked than that in public. Contact with foreign peoples, worships, vices, dissolved the old Roman character. Among the women a relaxation of ties was most evident. The formerly powerful respect for mother and wife died away. The republic was socially dead long before its political demise.¹

The satirists complained bitterly about morals under the early empire, but they undoubtedly exaggerated. At first under Augustus there was marked improvement. The craving for amusement was unabated but there was a tendency toward a broader humanity and a more serious outlook. Stoicism was a popular philosophy. But there was too much wealth, there were

¹ See Cato the Censor's "Complaints," 184 B.C.

too many importations from the Orient. Soon the standard of morality reached a lower ebb than at any previous period in Rome.

Let us examine a little more specifically the course of the changes in family life. The earliest law of Roman marriage was that of *manus*. The wife came under the hand of her husband and became one of his family. On his death she succeeded to freedom and a portion of his estate. Thus, though legally she had no position, she was excused from many things because of her presumed weakness. A very tender bond of companionship united father, mother, and children. In early days female virtue was highly regarded² and it was considered disgraceful for men to consort with prostitutes. The early Romans, moreover, united a Jewish pride of race with a Greek regard for public decency, and also added a characteristic of their own, a standard of austerity. Under the kings, moreover, the *boni mores* required dutiful service, obedience of children, chastity, modesty, and fidelity to engagements. Marriage was a religious duty both to one's ancestors and to oneself.

With the profound economic and social changes, however, there came changes in the family. The earlier laws although enjoining fidelity on the wife had permitted repudiation by the husband. The relaxation of the moral code brought about much divorce. In the late republic wives were permitted to hold property, outside the family; and aristocratic women refused to be married under *manus*, thus cutting the root of the Roman theory of marriage. Meanwhile the prostitute began to be recognized legally by elaborate restrictions of registrations, costume, and supervision which, as the nation became more lax, in the long run, promoted rather than restrained prostitution.

With increasing wealth slavery bulked larger in Roman life. The slave group was, of course, largely made up of captives but it was also possible for a heavily taxed foreigner to become a slave and thence by manumission a Roman citizen and free from taxation. Slaves were held by most people of any rank.

² Example: the Vestal Virgins.

All of Cicero's household servants, his secretaries, business managers, stewards, readers, librarians, carriers, tutors, and research workers, were slaves. His publishers' proof readers were slaves. Horace reports that ten slaves were a minimum even for a poor man. The cost of an average slave was about \$100³ plus his keep, which might amount to \$20.00–\$30.00 and would include two tunics, a pair of shoes, twelve to fifteen bushels of wheat, some oil and vegetables, and a cot. Slaves were allowed to put away a sum (*peculium*) with which to buy manumission.

Slaves who worked in the town houses or slaves such as those above described as owned by Cicero did not have a very hard time. But the slaves on the agricultural estates were worked cruelly in chain gangs, under the lash of a brutal overseer. At night they were herded into slave barracks, usually underground, with no regard to sex. A town slave was quite customarily punished by being sent to the country. However, despite slave uprisings the condition of the slave constantly tended to improve. As Adam Smith has said, the condition of a slave is always better under despotism than under a free government. Under the empire slaves were often confidants of their masters and held positions of trust.

The condition of the poor freeman, on the contrary, grew constantly worse. His economic position was infinitely more precarious than that of the slave. He might not easily obtain a wealthy patron. He could not live as well as the urban slave, whose children were quite usually trained in a skilled occupation. An unskilled workman might receive ten cents a day; a bricklayer twenty-two cents; a painter thirty-two cents. At the same time eight cents a day was about a minimum for his food, \$2.00 a month for cheap lodgings, fifty cents for a pair of shoes; fifty cents for the wool for two tunics. Meanwhile a wealthy man would pay 800,000 *sesterces* (\$32,000) for a Babylonian coverlet and the minimum total wealth that permitted a man to be a member of the knightly class was 400,000

³ Dollar values as of 1933.

sesterces (16,000). Conditions of the poor were of course ameliorated to a slight extent by the public sale of grain at less than cost or even as a donation and by the frequent amusements provided by the ambitious wealthy at cost of \$4,800 and up.

We are able to get a clearer idea of the contrasts in distribution of wealth in Rome than in any previous society. One of our most fruitful sources is Petronius, who, granting his satirical bias, does not seem to have exaggerated his description of the estates of his fictitious Trimalchio. This man knows less than ten per cent of his slaves by sight. He buys nothing from shops, producing everything on his own lands. He brings special rams for improving his wool, imports Athenian bees for his honey, sends to India for mushroom spawn. His Cumaeen estate yields 500,000 bushels of wheat. There he has 500 oxen in harness. A steward makes a report to him. Ten million *sesterces* (\$400,000) have been placed in the strong room for investment. He loves silver and has 100 three-gallon beakers of the metal, 1,000 cups. The steward reports a fire in Pompey's gardens.

"What?" broke in Trimalchio. "When did I buy Pompey's gardens?"

"A year ago," replied the steward. "That's why they haven't yet appeared in the accounts."⁴

When one turns from the unfair economic and social structure of Rome to its physical aspects he is immediately impressed by its splendor. The engineering talent of the Romans, their unbounded wealth, and the necessity of placating an impoverished populace alike contributed to develop a system of highways, water supply, police, and the like, unparalleled in the ancient world.

The supplying of water to the city of Rome was begun as early as 312 B.C. by Appius Claudius, who built the first aqueduct. By 97 A.D. there were nine aqueducts. The Claudian water

⁴ Petronius, "The Satyricon." English translation and notes by Mitchell, J. M. 2nd ed. (G. Routledge & Sons, Ltd., London; E. P. Dutton and Co., New York, 1923), p. 106.

was reserved for the imperial palace, the Anian was good only for ornamental fountains and for flushing sewers. Between these ranged soft but unsafe waters for washing, cooking waters, and the potable supply. The latter was collected in covered-in filtering and settling tanks outside the city. By the time of Constantine ⁵ there were 247 reservoirs in the city, 926 public baths, 1212 public pumps; and the water supply is estimated to have been fifty gallons per capita per day. The marvelous skill of the engineering works is of course expressed by the powerful beauty of the ruins.

Closely allied to water supply is sanitation. Contrary to common impression, the Cloaca Maxima ⁶ and other so-called sewers of antiquity were really storm drains and served to lower the ground water level and remove surface water rather than to carry away excreta. The openings into the *cloacae* were made along the streets of Rome and in some public buildings. There is no evidence that private residences were connected. Latrines were usually located adjacent to the kitchen and may or may not have accidentally discharged into the *cloacae*. However, whatever the sanitary arrangements may have been in Rome, there is no record of plagues such as the Black Death and it is to be doubted that the Romans would have tolerated conditions such as existed in western Europe during the Middle Ages.

Bathing was always an important factor in Roman life and the early citizens bathed in the Tiber after exercise. The first public baths were *piscinae* or cold swimming pools, but with the emperors there was a great change and the baths became remarkably elaborate. The Baths of Diocletian, for example, contained 3,200 seats for bathers and a *piscina* 200 feet long lined with marble and statuary. Celsus recommended the following procedure in a bath: Sweat a little in the *tepidarium* with clothes on, be anointed, pass to the *calidarium*, sweat

⁵ 328?-337 A.D.

⁶ The Cloaca Maxima was originally built to drain the marshes between the Capitoline, Palatine, and Esquiline hills. After 2400 years of uninterrupted service it is still in use.

freely, have waters of graded temperatures gradually cooler poured on, be scraped with the *strigil*, swim in the *piscina*, be rubbed and anointed. The usual bathing hour was one in the afternoon and the baths were open until dark.⁷ Women bathed at separate hours until the empire, when promiscuous bathing was common and no respectable matron would go. The houses of the wealthy had their own miniature baths and the guests at a prolonged dinner occasionally used the baths to permit them to continue the repast — a procedure not approved by Roman physicians.

The Roman police were really a watch — an armed and organized company of city guards who performed double duty of keeping order and protecting the city against fire. The city was divided into police wards in the time of Augustus. Of the extension of police power into building regulation we shall speak a little farther on.

Roman religion had little effect on the home life of the citizens. Up to the establishment of the empire, consultation of auspices and superstition played a part. Even far into the empire household gods⁸ had their place. The system was an elaborate polytheism of Greek, Roman, Oriental, and Egyptian gods. "The various modes of worship which prevailed in the Roman world commingled were all considered by the people as equally true, by the philosophers as equally false, and by the magistrates as equally useful. Thus toleration produced not only mutual indulgence but even religious concord."⁹

No nation of antiquity was so well supplied with building materials as Rome. All the world laid tribute at her doors and she was not confined to the use of her own local Italian materials,

⁷ Only one emperor lighted the baths at night.

⁸ The well-known Lares and Penates, both local deities peculiar to each household. Lares were originally gods of the arable land surrounding the house and were first placed at the boundaries, later multiplied and brought into the house. Penates were deities of the food store or cupboard. Both sets of deities were ordinarily kept in a cabinet and brought forth at marriage, birth, death, and other important family occasions.

⁹ Gibbon, "Decline and Fall of the Roman Empire." He is speaking of the age of the Antonines.

which in themselves would have been more than adequate.¹⁰ Glass, for example, was a very common importation and was cheap and common. Trimalchio in Nero's time complains that so beautiful a material should be cheap and so not desirable. Pliny says glass was made in Italy and Alexander Severus taxed glass makers along with other manufacturers of common products.

Owing to the abundance of masonry materials Roman houses were customarily built of stone and walls were relatively thick. Stucco was the common exterior finish and painted plaster the interior, except in the homes of the wealthy. On the outside the ordinary Roman house probably did not differ much in appearance from its Italian descendant.

Every Roman house, whether rich or poor, had as its center the large room called the *atrium*.¹¹ This room might be the only room in the house, or give light and air to other rooms about it. In the latter case the center opened to the sky (the *compluvium*) and through it fell the rain waters, collected by gutters and

¹⁰ The principal of these were:

1. *Tufa* from warm brown to yellow or grayish green, a stone which weathered badly outdoors but stood well if covered with stucco.
2. *Lapis albanus* and
3. *Lapis gabinus*, volcanic conglomerates of ashes, gravel, and fragments of stone.
4. *Selez*, a lava used for pavement and concrete aggregate.
5. *Travertine*, good weathering but easily calcined by fire. The Romans failed to recognize that, while strong horizontally, the stone splits if set vertically.
6. *Puzzolana*, a volcanic product looking like red sandy earth and mixing with lime to form a very strong hydraulic cement.
7. *Stucco* of all kinds, frequently built as thick as 5", often used as a skim coating over marble as a base for paint.
8. Four kinds of white marble and nine common colored kinds: mauve, yellow, orange, pink, green, striped, black, etc.
9. Granites and basalts.
10. Sun-dried or kiln-dried brick, seldom used structurally but usually as a facing.
11. Many pines and cypress.

¹¹ Probably from *ater* (black), referring to the blackening of walls from the smoke of the hearth at a time when the *atrium* was the only room. At this time the center opening was as in other primitive houses to let smoke out. It remained, as a rain-water collector, probably through tradition. *Atrium* may be derived from the Greek "*aithron*," "open to the sky."

roofs pitched toward it, into a tank beneath known as the *impluvium*, and the water was used for various domestic purposes other than drinking.

The Romans had visited Greek cities and naturally they enlarged their houses as their wealth increased, keeping the *atrium* however as the center. Bedrooms were added, a secondary court, a second story, and finally rooms for all functions. The *atrium* then developed into a large and stately court filled with statues, a means of displaying wealth.

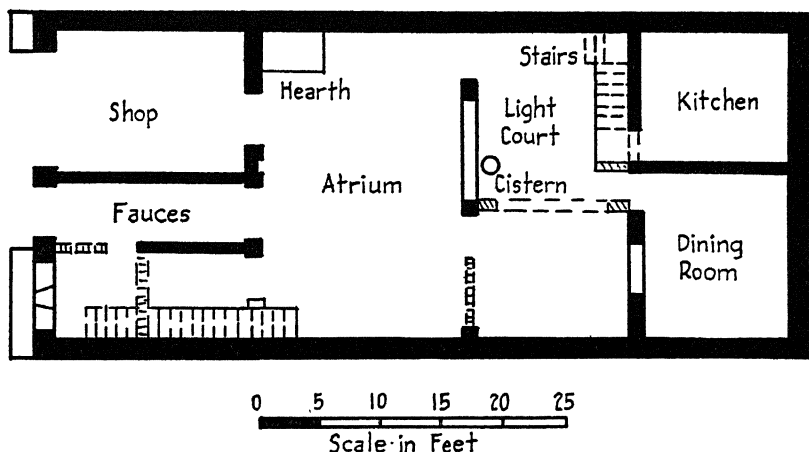


FIG. 48. PLAN, ROMAN HOUSE WITHOUT COMPLUVIUM

From Mau, "Pompeii, Its Life and Art." Courtesy Macmillan Co.

We have an interesting account of a house of one of the extremely rich in the letters of a Gallic captive.¹² He grew up in the court of Caesar and describes this palace with a freshness of viewpoint that would have been impossible to a native Roman. In front of the house¹³ itself was

(1) the area — forerunner of the modern front yard, planted with trees and having statues in it. Then came

¹² Mérovir, Prince des Suèves, "*Le Palais de Scaurus, ou description d'une Maison Romaine, Fragment d'un voyage fait à Rome, vers la fin de la République.*" édité par Mazois, Paris (Didot), 1822.

¹³ A good example of such a plan, although located in Pompeii, is that of the House of Pansa, Fig. 47, p. 159.

(2) the vestibule, containing waiting rooms for clients and solicitors. Then a long corridor led to

(3) the *atrium*. Back of the *atrium* was

(4) the *tablinum*, or library. Beside this there were two rooms, and passing through the corridor one arrives at

(5) the *peristylum*. This was another open court, planted with flowers and surrounded by columns. Off this were the sleeping suites, of which there were many kinds: one which could be entirely shut off from noise and light, another which had sun

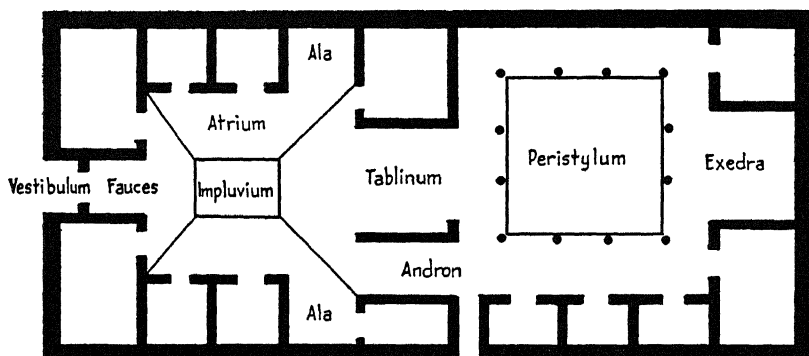


FIG. 44. PLAN, SMALL POMPEIIAN HOUSE

From Mau, "Pompeii, Its Life and Art"

all day long, a third which was specially intended for winter use and was heated by hot air. Near each of these suites there were smaller rooms for the slaves. The master's rooms were elaborately furnished. Farther back were the women's apartments. These consisted of several attractive rooms of which the chief was the dressing room. This was elaborately fitted out with wardrobes, dressing tables, and mirrors. A few of the other rooms of this spacious establishment were studios with north light, a shrine, a kitchen (148 meters long), store rooms, bakery, wine cellar, and on top of all a solarium or roof garden. Added to this were the rooms for athletic games and others for more sedentary amusements. There were also elaborate suites,

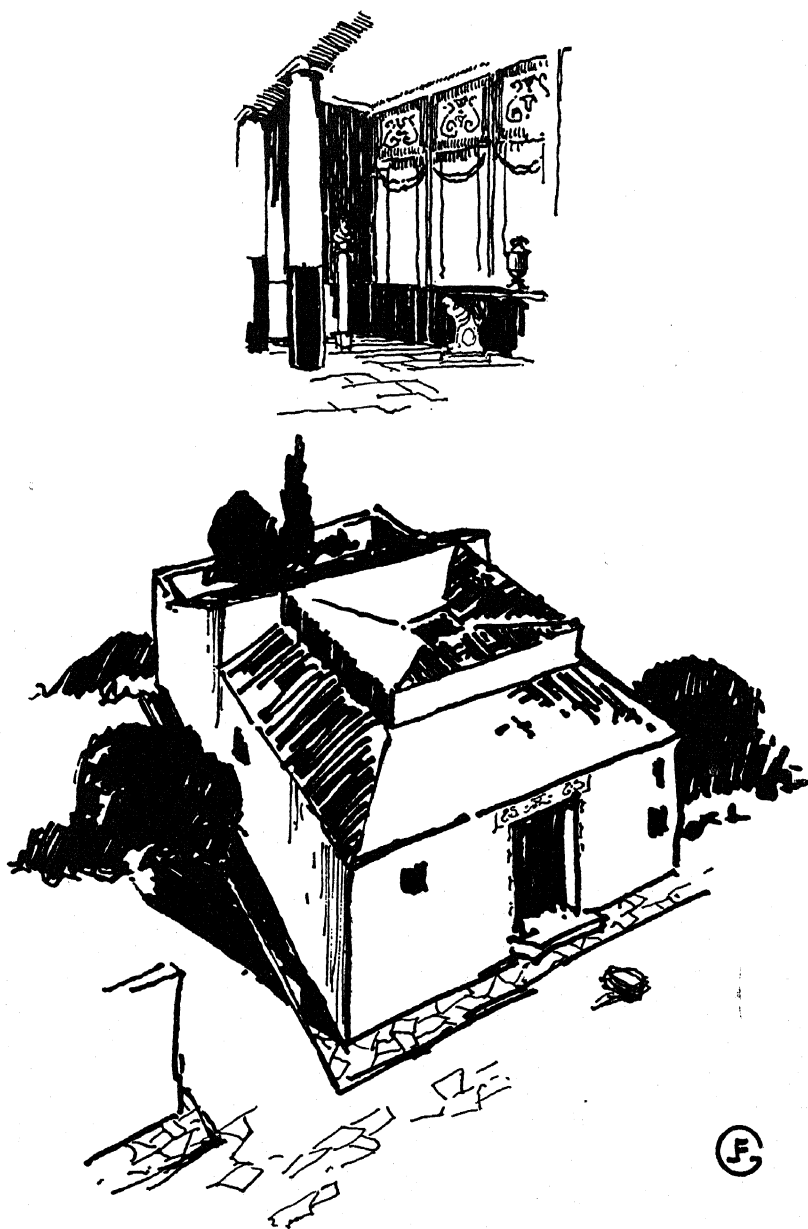


FIG. 45. A ROMAN HOUSE
After Mau, "Pompeii, Its Life and Art"

containing baths of various temperatures and rooms for dressing and massage.

Perhaps nowhere did the ostentatious nature of the Roman appear more clearly than in the numerous dining rooms where

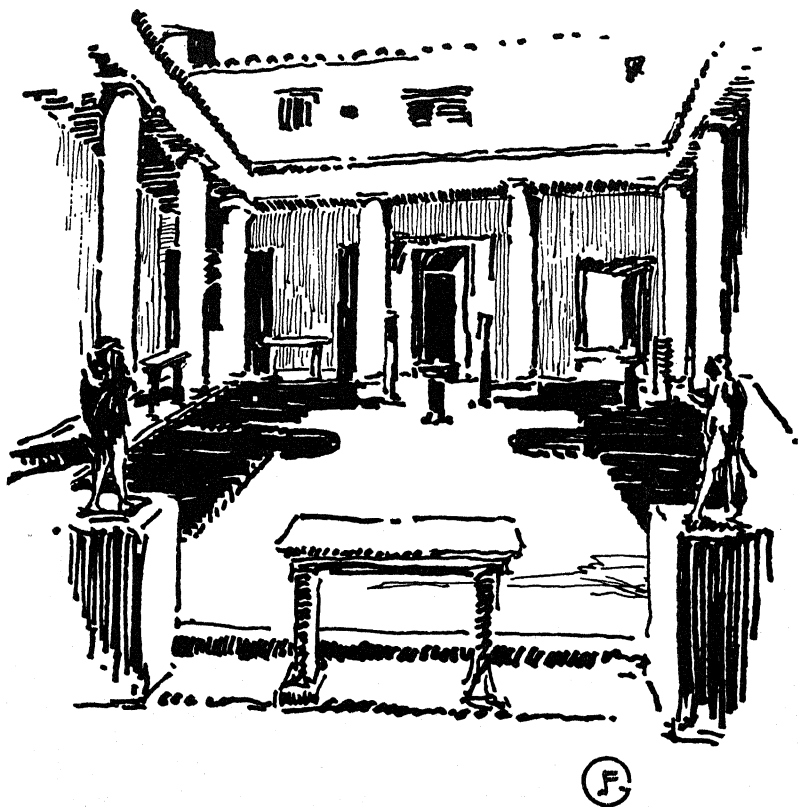


FIG. 46. A ROMAN ATRIUM

lavish banquets were frequently held. Different dining rooms were used, according to the size and importance of the banquet. The expenses of an elaborate feast ran as high as \$9,000 to \$10,000.

“The most striking point on entering the house is the painting of the walls. The thorough artistic taste of all classes is

proved by the fact of the walls of even poorer houses being always either decorated pictorially or at least painted."¹⁴ In the later decadent period the walls were covered with gold and ivory or mosaics. Statuettes were everywhere.

"Domestic luxury in antiquity . . . aimed not at 'comfort' (for which the Southern languages have no word), but at parading the owner's dignity as much as possible. The dwelling-rooms were but little used by day, and sparsely furnished according to our ideas; but the lofty and large reception-rooms,

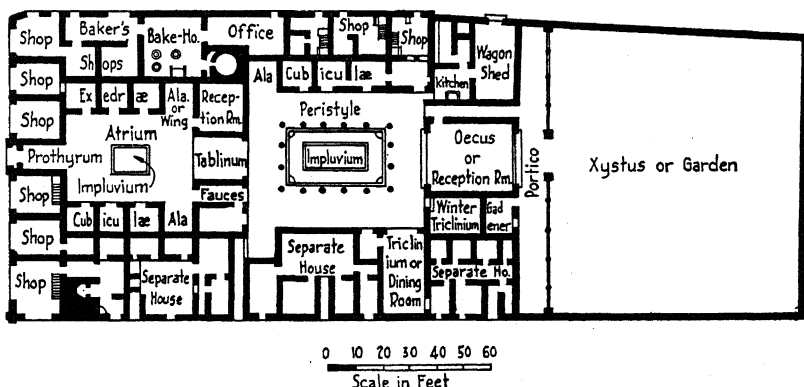


FIG. 47. PLAN, HOUSE OF PANSA, POMPEII
After Mau, "Pompeii, Its Life and Art"

intended for the crowds of morning visitors and evening banqueters, contained relatively few articles, but very costly and mainly decorative, e.g., tables of citrus wood with ivory legs, sofas inlaid with tortoise-shell or ornamented with gold and silver, Babylonian carpets, splendid vases of Corinthian bronze and *murra*, Aeginetan candelabra, sideboards with old silver, statues and paintings by famous artists."¹⁵

It is interesting to compare the prices of some of these costly ornaments:

¹⁴ Guhl, E., and Köner, W., "The Life of the Greeks and Romans. Described from Antique Monuments." Trans. by Hueffer, F. (Chatto and Windus, London, 1875), p. 367.

¹⁵ Friedländer, Ludwig, "Roman Life and Manners under the Early Empire." Trans. by Magnus, L. (G. Routledge and Sons, Ltd., London; E. P. Dutton and Co., New York, 1908-1913), Vol. II, p. 202.

Aeginetan candelabra	25,000	<i>sesterces</i>	(\$ 1,000)
A <i>murra</i> vase	300,000	"	(12,000)
A rock crystal wine scoop	150,000	"	(6,000)
Silver dishes (by the lb.)	6,000	"	(240)
Babylonian coverlet	800,000	"	(32,000)
Citrus wood table	500,000	"	(20,000)

Petronius' Trimalchio, in the time of Nero, had a house with four dining rooms, twenty bedrooms, two marble porches. The vestibule had huge murals portraying his rise to wealth side by side with scenes from the *Iliad*.

The banqueting hall was the all-important room in the house of a wealthy Roman. At the entrance the steward sat busy with his ledgers. Within, the room was lighted by twin lamps hung from the ceiling. The dining room generally, in the houses of the wealthy, was divided in half, one half containing couches and tables, the other half being left free for the servants and entertainers. The hall was often called *triclinium*, a word of Greek origin signifying the arrangement of places on three sides of a square. Each guest lay sideways upon his left elbow and took his food up with his right hand. The guest on the right lay with his head so far away as not to come into contact with the active arm of the first. Thus the second lay below the first, and so on. Each couch of the *triclinium* contained three places. The middle couch was "lower" than the one on its left and "higher" than the one on its right although the level may have been the same. The chief guest sat in seat No. 6, the host at No. 7 but seat No. 1 was of course the highest point. Couches were covered with clothes and cushions. Slaves brought dishes to the free end of the table and there the carver stood. When the guest wearied of eating he leaned back from the table and thus room was sometimes made for a second set of guests. The table was slightly lower than the couches and originally square, though later sometimes round. Separate tables were also used. The very wealthy had tables consisting of single blocks of valuable wood like citrus or maple showing grain. Cloths were not

used till the end of the first century A.D., the tables being cleaned after each course with a wet sponge.

No true picture of the luxury of the Roman rich can be painted without a brief consideration of what went on in the dining room. The menu ¹⁶ indicates an elaborate kitchen. The ovens were numerous and generally were made of earthenware or iron (Trimalchio of course used silver) with holes in them, and surrounded by coals. The spit and pan were also used, and, to judge from the list of viands, there must have been some sort of refrigeration.

When the wealthy Roman retired to bed it was literally to a downy couch. The bed itself was elaborate, of highly expensive materials, silver, colored wood, bronze. On it lay mattresses stuffed with reeds, hay, wool, or feathers. Small cushions were placed at the head and sometimes at the back. The whole was high enough to require steps. In the daytime it was covered with elaborate counterpanes. A much decorated marriage bed was symbolically placed in the *atrium* but was not supposed to be used regularly after the nuptials.

The library was a room for ostentation and not, we may gather, a place where the Roman retired for pleasure. We find many satirists ¹⁷ declaiming against the buyer of books for their backs and their titles and as ornament. None the less the possession of a library was a *sine qua non* for a respectable Roman and he frequently left it to the public on his death. In his picture gallery he probably took more personal joy and as early as Vitruvius it is recognized that a north light is desirable.

The Romans like the other peoples of antiquity loved gar-

¹⁶ A random list of things served at one dinner by Trimalchio discloses: Olives, dormice garnished with honey and poppy seed, sausages steaming hot, black plums from Damascus, sliced pomegranates from Carthage, pea hen's eggs stuffed with a fig-pecker in yolk seasoned with pepper, butter beans, porterhouse steak, kidneys, sweetbreads, figs, sows' udders, cheesecake, salt water fish, hare, lobster, goose, mullets, bread (handed around in a miniature silver oven to keep it hot), boar with pastry, pigs, tripe, liver croquettes, thrushes made of dough full of raisins and chestnuts, oysters, mussels, truffles.

¹⁷ The best of these is Lucian's "To the Ignoramus who buys many books."

dens but elaborated them overmuch. The *viridaria* of the wealthy abounded in parterres and arbors and shrubs tortured into the semblance of animals. Pets too were common and popular.

Meanwhile what of the middle classes and poor? The former were not badly housed and, as in all civilizations where a middle class exists, their homes reflected the homes of the rich to the limit of their purses. The plans of Figures 43 and 44 show an average-sized and a small middle-class house in Pompeii. The houses of the poor, however, were abominable. The bulk of the poor population in Rome lived in tenements which were technically known as "islands." Martial speaks of the high rents charged for inferior housing. Cicero states that there were more "islands" than private homes in Rome. On the ground floors of these buildings in typical working-class quarters of Rome were shops occupying in many cases not only the façade but also the rear space which in a single house would have been the *atrium*. On the upper floors were the dwellings of the crowded poor. Sulla as a young man was poor and lived on the ground floor of such a building.¹⁸ His rent was 250 *sesterces* (\$10.00) a month. The upper stories rented for 167 *sesterces* (\$6.67) a month. Such accommodations were obviously not very comfortable. The rooms were dark, the hearth was cold, the furniture might be a jug with a broken handle, a mat, a heap of straw. A short tunic was a man's only clothing; his food vinegar, wine, and black bread. Bread, beans, turnips, lentils, onions, garlic, peas, and fish were nearly the whole diet of the poor. Leeks and a boiled sheep's head would be luxurious.

Moreover, the tenements were dangerous. A poor poet of the empire complained that he had to climb 200 steps to reach his lodgings. The upper stories jutted out and were made of wood so that the fear of fire and earthquake was constant. Crassus made a great deal of his fortune by visiting tenements near the scene of a recent fire and buying from frightened proprietors at a low price. In this way he gradually acquired a

¹⁸ The best accommodation because the safest from fire and earthquake.

large proportion of all the tenements in Rome. It was this wooden construction that made possible the burning of Rome under Nero.

The rulers recognized the dangers of these tenements and we find some feeble attempts at building codes. Augustus forbade building tenements more than seventy feet high and the edict was renewed by Nero and again by Vespasian. There were also some attempts at restraining the shoddy practices of speculative builders.

In the country, of course, the poor fared better. Petronius has given us a beautiful picture of a poor woman's home:

“No Indian ivory shone rich-set in gold,
Nor gleamed with marble parquetry the earth,
Hid by her own gifts. But a willow-frame
Held store of straw. Fresh earth lay evenly
Pressed simply by the humble roller's weight.
A gently dripping tank and from a beam
Hung wicker plates, a jug with marks of wine.
The wall around was wattled thick with straw
And in chance daub she counted rustic nails.
A slender thatch of green hung gracefully.
Besides a simple box preserved her store,
Hung from the smoky roof. Sweet apples too
Hung clust'ring there 'mid scent-giving festoons,
And savoury old and raisin bunches spread.”¹⁹

It was inevitable that a race of comfort-loving engineers like the Romans should develop a number of household conveniences. Window-glass was common. Artificial lighting was by elaborate candelabra and oil lamps. The streets were partially lighted by lamps hung before the doors of each house on the more important streets.

But it was in heating that the Romans made their greatest technical advance. This they achieved by a device known as the hypocaust, which was a simple but cumbersome apparatus. It somewhat resembled a modern house furnace having pipes or

¹⁹ Petronius, “The Satyricon,” p. 230.

flues communicating from the great ovens or fire chamber to the several apartments above, where the pipes ran under the floor slabs and warmed them. There is no evidence of chimneys in Rome and only one authority ²⁰ maintains that they existed. The hypocaust, however, was expensive because of its inefficiency and was never generally used except among the wealthy. In its developed form it aided ventilation as well, by conducting heated air through hollow wall tiles (caliducts) from the furnace, the caliducts being closed until the fire had ceased to glow, so as to avoid smoke, and then opened at pleasure to deliver the heated air. It is also reported of Roman heating science that copper tubing used as flues or pipes was gilded to diminish radiation at undesired points.

The Romans appreciated good ventilation. The fireplace was, where possible, outside the house to avoid smoke.

Pliny the Younger arranged his Laurentine villa so as to secure the greatest possible advantages from the sun and with ingenious devices for artificial protection from wintry winds. However, even at Trimalchio's feast we find some of the old expedients, saffron being sprinkled in the air to keep it fresh. This was also done in the indoor theatres.

While the Romans were degenerating into slothfulness and luxury the Germanic tribes to the north were growing stronger and beginning to exert the pressure which ultimately was to destroy the empire. These barbarians, according to Tacitus, had no cities. Each fixed his independent dwelling on the spot which a plain, a wood, or a stream of fresh water induced him to prefer. There he built a low hut of circular shape, of rough timber thatched with straw and pierced at the top to leave a free passage for the smoke. The care of his home and family, the management of land and cattle, he delegated to his aged, his women, his slaves, while he developed his masculine strength in the art of war. He had standards of personal virtue and his women were chaste. These Germanic people were our ancestors and we must now turn to a study of their life.

²⁰ Riesbeck.

CHAPTER IX

English Homes from the Neolithic Period to the Norman Conquest. ? -1066 A. D.

ENGLAND'S insular position gives perspective to our study of her homes, just as it gave to the nation, once established, freedom to develop independently, yet opportunities to profit by intercourse with the continent. England serves well as an example for the countries of Western Europe. Physically she has about the same climate and resources, economically she participated in the trade and commerce of Europe, and in the guild system and the feudal system resembled the continental countries. Spiritually, Europe, in spite of constant wars, was held closely together by having this same framework of society, by the Church, by the universal use of Latin for intercommunication. The mixture of races in the English — Celtic, Germanic, Scandinavian, with a dash of French — made England generally akin to all that was important in European life. In studying the homes of England we have a remarkable opportunity to observe a development over a long period in essential unity and at the same time by inference to learn what was happening on the continent, if only we remember that until a late date England lagged behind by from fifty to two hundred years.

In this study we note at once that the varied geological formations of England and the marvelous oak forests permitted building with very little recourse to foreign shores for material. Even brick, which is so essentially a characteristic of later English domestic architecture, was made, after early Flemish importations, from England's clay pits. So in use of materials as

in ideas we find the English making an advantage of their isolation.

An unbroken course of history makes it difficult to treat clearly separate phases of that history. The study of the guilds, for example, which is very important in any analysis of the Middle Ages, has all been placed in the period of guild supremacy; but for the most part we will mark off periods conforming roughly to major political changes. These periods are chosen rather with a view to social character than to political as it is the former that conditions the home.

BRITON ENGLAND TO THE ROMAN CONQUEST, 43 A.D.

Very early relics of human life are found in the British Isles. We have already mentioned the prehistoric man of Pilt-down in Sussex, a man more apelike than human, about whose life we know almost nothing. Of the Neolithic period there is evidence of a number of interesting pit dwellings, the most important of which are found at Fisherton near Salisbury. These consisted of pits carried down through the chalk from seven to ten feet, covered with roofs of interlaced boughs coated with clay. They were entered by tunnels excavated through the clay, sloping downwards. Their chief security lay in concealment as the owner, once discovered, was evidently at the mercy of a foe above. The Neolithic civilization of England does not seem to have developed to so high a point as that which we have studied on the continent although its essential characteristics were similar. Lake dwellings such as we have already described are found in England in considerable numbers, particularly around Glastonbury, where the prevailing form of house is round.

The first civilization of England of which we have any historic knowledge is that of the ancient Britons or Celts. The average man conceives of the ancient Britons as savages fighting in chariots, uttering loud cries, painting themselves blue with woad, and making human sacrifices in Druidical groves. There is truth in the picture, but the Britons were developed to a much higher point than is generally supposed.

Their civilization, to be sure, never attained a very high level because of their wars. Certainly, however, the Britons practised a number of crafts before the Roman invasion, the principal ones being those of the potter, weaver, and dyer, while there was also a not inconsiderable enamel art. They had a coinage of sorts, consisting of a primitive imitation of coins of Philip of Macedon; but wealth was principally in portable goods. Land had little significance to the average wild tribesman. Such cultivated regions as there were, were principally in the East; but they did not increase, because tribal wars were constant and dense growths made deforestation difficult. The Britons were apparently very clannish, and particularly suspicious of foreigners; so, although the Phoenicians did come to Cornwall for tin, they probably never established anything more than a coastal trade, and later traders were unable to push inland. But this coastal trade, particularly on the east shores, had its effect on Briton civilization, and the cities of this district were more advanced than those of the West and North.

For there were cities, rude as they might be, even in a country full of morass and dense forest. They apparently consisted of "streets of round huts of wood and stone, encircled by ditches and stockades, . . ." ¹ The huts themselves were not unlike those occupied by charcoal burners of contemporary England. A number of thin poles were laid together in the form of a cone. The feet of the poles, about nine inches apart, were interlaced with brushwood; a doorway was formed by laying a lintel from fork to fork; and the whole was covered with sods laid grass inwards to prevent the dirt from falling. Others were made in beehive form of stone. The highest level of culture as expressed in home life might have been "the smoke-grimed interior of a stone beehive hut, probably with a large chamber excavated below, roofed with timber, a storehouse and perhaps a refuge should the settlement be raided and sacked in the course of a tribal war. Without there would be the narrow, dirty streets,

¹ Gloag, John, and Walker, C. Thompson, "Home Life in History" (Coward-McCann, Inc., New York, 1928), p. 19.

unpaved, deep in mud, threading their way amid the humped shapes of other huts until the strong bordering walls of stone and earth marked the limit of this rudimentary city.”²

Gloag and Walker have given us a vivid picture of the appearance of these Celts. The men were apparently of medium height, broad-shouldered, with light brown hair, a walrus beard. Their bodies were indeed tattooed with woad but the climate obviously demanded clothing. Loose baggy trousers gathered in at the ankles, bound with strips of hide, a tunic of plaid squares of red, green, and blue, a long helmet of woven material, gold chains, bracelets, knives, daggers and spears of bronze, a shield of oxhide, and in winter a cloak of fur, made up the personal habiliments of the wealthier. The women were similarly dressed and the poorer might substitute skins for the plaids and have poorer armament.

In the summer the Britons ate out of doors and in the winter within the hut on rough tables of smoothed logs set on stones, with wicker stools to sit on. On these tables were barley-bread or bannocks, game, and cattle, usually stewed. Only on festal occasions would a roast be cooked on a spit of green wood. Grain was soaked in sheeps' milk as a porridge for a staple article of diet. Beer, mead made from honey, and the cheapest of imported wines³ were their drink. The utensils of the wealthier might be made of alabaster or jade, and coarse earthenware; of the poorer, of horn or a variety of pewter.

All together, living conditions during the Briton period were controlled by three factors: (1) the need for protection from tribal wars, (2) the constant struggle against dampness and cold, (3) the dominance of the ferocious Druid religion. The first led to the surrounding of towns by walls and ditches, bred suspicion, and prevented development; the second forced the cutting of drainage canals around the huts and produced a central room with its fire instead of courtyard life; the third

² Gloag and Walker, "Home Life in History," p. 22.

³ The inferior sour wine of France and Spain. The Britons demanded little of their drink except potency.



FIG. 48. HUTS OF THE ANCIENT BRITONS

blanketed the civilization with fear. All combined to develop a fierce untractable people who resisted the Roman onslaughts valiantly and who, even when conquered, were always rising in revolt and showing themselves less adaptable to Roman custom than the majority of other tribes who came under the Roman yoke.

ROMAN BRITAIN, 43-420 A.D.

Although Julius Caesar made his expedition to Britain in 55 B.C., the results were slight and the true conquest of Britain by the Romans cannot be said to have been consummated until the expedition of the Emperor Claudius in A.D. 43. Then and there the Romans set about transforming Britain into a Roman colony, developing its resources, building Roman dwellings, amphitheatres, baths, pushing the Roman road system into the northern provinces. The Britons at the South and East were not unready to accept all this; but those who had hitherto had little or no contact with foreigners proved very recalcitrant, and the whole period of Roman occupation is one of war with the North, marked by the walls built by the various emperors and governors.⁴

Temporarily at least the Romans brought to Britain a richness of life hitherto unknown. The wealthier Britons were not long in adapting themselves to Roman methods of living. The *atrium* was obviously unsuited to the climate and except in thoroughly Roman cities such as Bath was not employed and even there probably only by Romans. A wealthy Briton copied Roman architecture but remembered his own needs. He built his house of brick, concrete, and plaster, with mosaic floors and walls. In shape the house was like an E with the middle bar left out. Windows were glazed with small panes of fairly thin

⁴ Thus Agricola in 84 built forts from the Clyde to the Forth; but these were insufficient to protect the outlying provinces, so in 120 Hadrian built his wall from the Tyne to Solway Firth. Twenty-three years later Antoninus Pius attempted to increase the dominion by strengthening Agricola's forts and building a wall on them, while in 208 Septimius Severus further strengthened this far northern boundary. But Briton resistance was not broken and on the retirement of Septimius, Hadrian's wall again became the boundary.

greenish blue grass and protected by iron bars. The hypocaust was introduced. But even then the house was a feeble imitation of Rome. Wall decoration, such as the fragment of a painted dado from a house at Caerwent tried to show perspective in the manner of late Pompeii but the drawing was bad and the colors crude.

Meanwhile the humbler people, laborers and slaves, still occupied buildings of wattles and daub, roofed however with stone or red clay roofing tiles. But the pit dwellings were not entirely abandoned and even when given up as abodes were still used as cellars or store pits.

SAXON AND DANISH ENGLAND TO THE NORMAN CONQUEST

Long before the final withdrawal of Roman legions in 420 A.D. Britain was descending into anarchy. The raiding Saxons and Jutes were already acquiring bits of territory here and there. The Britons were incapable of defending or governing the whole land. Many cities were destroyed and life became again a series of emergencies. British chiefs began to remember their old titles and civic rule again began to center around an individual. "A forest clearing, a wooden hut, coarse food, unskilled slaves, ill-defined rights and property boundaries, hunting, constant alarms of raids . . . periods of service with this king and that, . . . and then back to the restless, half-savage home life" ⁵ was the rule of existence of the Briton during the fourth and fifth centuries.

Hordes of Jutes, Saxons, and Angles, constantly descended on the land. These peoples lacked almost everything that had made the Romans successful but they had a Northern spirit of freedom and independence. They came from the shores of the Baltic and had never known Roman rule. They had lived in groups of families, the children being the absolute property of the father and in return having the right to protection and support. When the male children reached a certain age many of them separated from the clan to start new families of their

⁵ Gloag and Walker, "Home Life in History," p. 62.

own. Bands of enterprising young men joined together and went on expeditions to seize desirable lands from their neighbors or even in distant countries. They were bold and adventurous seamen and so it was that the Saxons came to Britain.

The lands that they seized were divided among the leaders into family estates, on which were constructed buildings grouped around a central home or *ham*. These *hams* were surrounded by earthen walls and ditches, and usually consisted of a large wooden building called a *heal* (hall) and surrounded by small separate buildings called *burs* (bowers, later chambers).

The Hall lay east and west with a door in the western end. It was constructed with a framework of wood filled with kneaded clay. The roof was a layer of birch bark over the beams and covering this were sods cut so thick that grass and weeds went on growing. The side walls were low; and goats, sheep, and even pigs might graze on the roof. The lintel of the door was so low and the threshold so high that one had to stoop his head and lift his foot as he came in. Thus he could easily be killed if he were an enemy. The window (wind's eye) was an opening in the center of the roof and was the most vulnerable part of the building. Sometimes the master of the house was killed while sitting at table by an arrow or javelin shot through it. In very dangerous times an armed man might be posted on a small platform under the opening. The Hall reached a high stage of development in Iceland. A characteristic plan appears in Fig. 49.

The Hall itself was one large room with simple furniture, usually fastened down or built in.⁶ The principal piece of furniture was the long seat which ran close to the north and south walls and sometimes across the east gable as well. The middle of the long seat was higher than the rest, was called the high seat, and was occupied by the master of the Hall and his wife. Sometimes a second high seat might be provided opposite the master for distinguished guests. These seats were the most comfortable

⁶ Thus the Grettir Saga, wishing to describe a particularly violent combat within the Hall, relates that the furniture was torn loose.

as they were opposite the fire, which was built in the center of the Hall on flat stones, the smoke escaping through the window.

Most of the smoke, however, was lost among the gables and settled on the beams as soot, particularly as the window was closed in inclement weather. During the damp season the soot would absorb so much moisture that it fell off and showered down. Unpleasant as this might be it improved the floor by

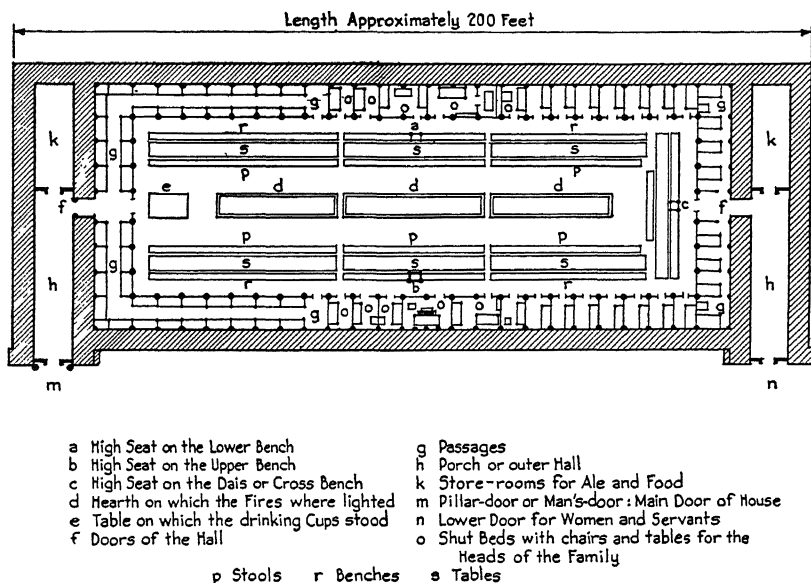


FIG. 49. PLAN, ICELANDIC HALL

After the Norroena Society

covering the refuse of yesterday's meal. When the floor grew too foul it was covered over with a fresh supply of rushes. The *burs* when they existed at all were used as sleeping apartments for the women. The Hall is the essential feature which persists throughout the entire early development of the English house.

The Saxon household itself consisted of the family, retainers, and a garrison or *hird*. Life was full of feuds and killings. Education was confined to the individual Hall, where each taught the others everything special he knew. Thus the level

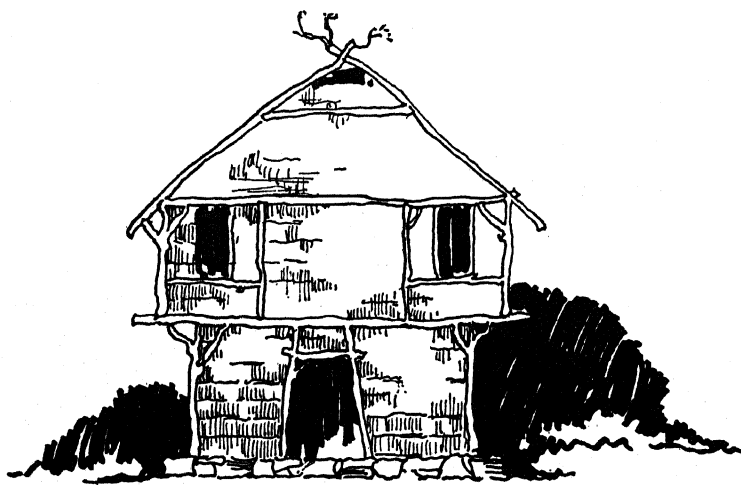
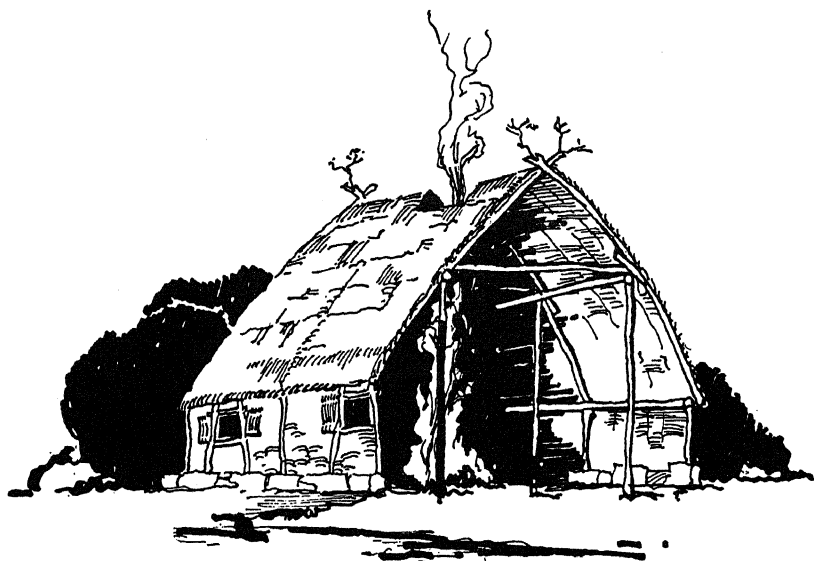


FIG. 50. AN EARLY SAXON HALL—A SAXON CRUCK HOUSE

of information was uniform. In the winter the men made or mended weapons, tools, fishing tackle, while the women spun and wove. Story telling and singing were common.

Such were the Saxons when they entered Britain and their new home-land made no great changes in their life. They spread throughout Britain, except for Wales and Cornwall, extinguishing Christianity and bringing in their own rude mythology. At first they warred with each other but gradually the kingdoms of Wessex (Saxons), Mercia and Northumbria (Angles), gained dominance. Meanwhile Saint Augustine came to England in 597 and began in Kent the conversion of the Saxons to Christianity. In 802-827 Egbert, King of Wessex, a friend of Charlemagne, was the first to bear the title "King of the English." Alfred the Great resisted the Danish invasions, laid the foundations of unity, founded schools, encouraged trade, and established a navy. After Alfred a succession of weaker kings were less able to resist the Danes, who successfully overran the North of England.

The Saxons were by this time an agricultural people. We have a Saxon pictorial calendar similar to the carvings of the Works and Days on the great cathedrals of France which illustrates this.⁷

Land was held by a rough sort of feudal system. The ranks of society were kings; *eorls* or nobles; *ceorls* (churls), freedmen who owned enough land to support themselves; *laets* (men with no property right), cottagers and free laborers; *theows* (thralls), slaves. In the case of freedmen land was worked by a family group or *maegth*. The large arable fields were divided into narrow strips, each household possessing several, and a hedge-divided meadow in the summer. In the winter the meadow was common land. The waste land was common for wood and swine pasture. The system was not unlike that of Russia before the revolution and was the direct ancestor of the manorial sys-

⁷ Viz.: January — ploughing; February — pruning; March — digging and sowing; April — planting; May — lambing; June — haymaking; etc. — Drawn from Gloag and Walker, "Home Life in History," p. 83.

tem. There was a good deal of lawlessness; the power of the Church, however, is illustrated by the fact that a thief repaid to a churl three times what he had stolen, but to a priest nine times.

From the early chaos order emerged in building as well as in land tenure. The Anglo-Saxons brought to England improved tools including a fine adze.⁸ They framed their houses with curved branches of oak planted in the earth in pairs.⁹ Each pair formed a letter A with a cross piece just above a man's height. The walls were then made of plaited ozier, wattles, wicker, or hurdle work, covered with mud or clay. Often they later built around the existing timbers so that posts were embedded in the new walls. The rafters were arranged as they now are in barns. One wall might be the remains of a Roman brick wall. When the rectangular structure became large enough to need internal support for the roof, upright posts divided the hall into a nave and two aisles. The cattle were sheltered in the latter. The regular width of one bay was a perch, or 16 feet 6 inches, which was exactly filled by a team of four oxen. Thus early in English history a house became a rather sure indicator of its owner's wealth.

Floors were still of stamped earth covered with reeds. The windows were shuttered at night. The fire still burned on the open hearth. Furniture was scarce. In the king's hall angular boxlike chairs were used and the waiters carried cloths to wipe up the wine spilled at table. Drunkenness was common. There early came to be minstrel and juggler classes who were warmly welcomed.

Hospitality was a chief virtue of the Saxons. Meals were cooked and served in the Hall. Cooking was simple. The diet consisted largely of meat roasted on spits. There were no plates, knives, or forks, and people ate with their hands.

The various Scandinavian invaders had introduced into Eng-

⁸ The Saxons used a wheeled plough with metal ploughshare, pitchforks, billhook scythes, spades, picks, flails, sickles, the adze, the harrow.

⁹ See Figure 50, p. 174.

land the system of land tenure which developed under the Normans into the manorial and feudal systems. They had brought the Hall, which was to remain the genesis of all housing as we know it. They had improved husbandry. They had imbued a weakened race with new ideas of virtue and bravery. It remained for the Normans to weld these elements into a true feudal system, to establish a measure of peace and prosperity, and to make possible the mighty developments of the Middle Ages.

CHAPTER X

English Homes. The Norman Conquest to Crécy. 1066-1338

THE Norman Conquest resulted in profound changes wrought out during several generations, in race, language, customs, laws, and the whole structure of society. William shared the spoils with his followers but distributed the lands of the Saxons so astutely that all his nobles, lesser and greater, owed him direct allegiance. The subject race was despised so that rank was more accentuated than in Saxon times. The Domesday Book, curfew, and other regulative measures show the Norman gift for order and administration.

The Crusades, Magna Charta, the loss of the French possessions of the English kings, the shaping of Parliament, and the subjugation of Wales may be mentioned to outline the history of this part of the Middle Ages, which offers us richly interesting developments in housing and architecture.

During this period we find a measure of prosperity and in spite of violent quarrels between the king and the barons and the king and the Church, there was relative peace. Towns sprang up as trading centers, usually clustered around an abbey. The first guilds, of which we shall have more to say later, were founded and became the machinery of city government. Intercourse with the rest of Europe increased with the natural growth of trade, and the interests of the Church and the Crusades especially stimulated travel and knowledge. The Normans in France were famous builders,¹ and as soon as they possessed

¹ Although leaning to impressive rather than high-grade construction.

the land in England began to build strong castles, most of which were completed in the next century. William himself built the White Tower in the Tower of London to overawe the city. Bishops and abbots summoned from France by the Angevin kings brought plans and masons with them and the characteristic beauties of English cathedrals and churches began to adorn the countryside.

The typical small Norman house was rectangular and two-storied, the upper floor reached by external steps. Here was the hall or principal room with built-in window seats. The undercroft or vaulted lower floor was used for storage and working. From the hall or family living room one entered the chamber or chief bedroom. Sometimes the ceiling of the hall and chamber was flat and there was a large dormitory under the gable roof.

At the same time somewhat poorer people began a type of house which later developed into the half-timbered construction. At each corner of a brick or stone foundation they set a tree-trunk, roots upward, the roots cut and carved into brackets for support of the upper story. Between the corner posts, on each side they set upright posts, fastening them into horizontal beams at the top and bottom. Other horizontal beams were fastened into the corner posts and beveled into the uprights. Some of the interstices thus formed were left for windows and doors. Laths were fitted in the remainder by means of slots in the posts. Wattles or rods of hazel were then woven in and out of the lath and the whole covered over with daub, a mixture of clay, and straw or cowdung. When dry the daub was colored or whitewashed and the wooden elements painted black. In the comparatively rare case of second stories, the beams of the floor of the second story projected beyond the first, boards were placed on these extending to the corner posts, and the second story was erected on the extremities of these joists just as the first story had been. Roofs were gabled, made with tie beams, boarded and roofed, usually with thatch. Thatch roofs caused frequent fires and although there were no fire departments the citizens did use large hooks to pull off the roof

in case of fire. The value of tiles for roofs in early times is evident from the fact that fines were frequently payable in tiles.

However, the characteristic qualities of the early Norman and Angevin periods are found not in the small houses or the towns but in the noblemen's castles. These differed in size and strength rather than in comfort from such middle-class homes as existed. The name hall was changed to the Norman name *manor*. The buildings were designed by the nobles to resist long sieges instead of to repel short attacks and for this reason their walls were usually of massive stone. From the tower a watchman kept constant guard and at night a beacon might summon assistance at need. For their fortifications the Normans developed two types of keeps, the "shell" and the rectangular. The "shell" keep was built on old Saxon, Roman or British earthworks, a wall of masonry enclosing the buildings on a mound. The rectangular keep, necessary where a hill was not available for the central site, was generally four stories in height and surrounded by a deep moat. The hall was usually reached by spiral stairs in an angle turret and the *solar*, or withdrawing room, at first was above the hall.

The introduction of the *solar* led to more privacy for a noble family. Sometimes when the company was not large, meals were served there and there the women of the family spent most of their time. There was little furniture except a few benches, for movable property was never safe from plunderers. Beds consisted of straw sacks and bolsters laid on benches. Principal guests also slept in the bedroom and it was there that the children were brought up.

In the massive stone walls fireplaces could be built and while chimneys were apparently very rare there is evidence of one at Rochester dating from 1130. This, however, had no external chimney shaft, the flue being carried through the wall some distance above the fire. Glass was used to some extent but only in the homes of the very rich. As with the Saxons, hospitality was a chief virtue and the wealth of the Normans lent to this hospitality a luxury unknown in Britain since the Romans. The

hall door was supposed always to be open as a sign of hospitality and a miser was one who shut his hall door in time of peace.

It will be interesting to note changes that were occurring in Norway under Olaf Kyrre at a period contemporary with the Conquest. There and in Iceland were seen alterations in the character of the old Norse hall. The first of these was the addition of sleeping arrangements according to Christian ideas of decency. This we have seen in England in the appearance of the *solar*. Subordinate buildings were also added, the bower,² the seething house,³ the earth house,⁴ and the bath house.⁵ The hall itself could not be divided into stories and rooms as long as the open hearth fire needed a space for the smoke to rise; but about this time the Icelanders began, largely because of the deforestation of their lands, to burn turf. A sort of masonry structure was devised with a space inside and at its top an escape for flame and smoke directly into the hall. Fuel was put in in the morning and a brisk fire made which radiated heat all day.⁶ Lacking the open fire, they developed lamps, probably bowls of fish oil with vegetable wicks floating in them, which, as one writer remarks, probably furnished more smell than light. The stove was placed at the west end of the hall in order to get a good draft; the middle of the long seat therefore was no longer

² A strongly built structure for the keeping of valuables. It was raised high on wooden posts and between steps and the threshold there was a wide space to keep rats out. Later the bower became the sleeping place of the master and mistress and occasionally it was given to distinguished guests. Its relative security was appreciated in a time when the lock-bed was common wherein one could lock himself up from attack when he went to bed. Often the women plied their tasks in the bower during the day.

³ Or kitchen, which was designed to let the wealthy enjoy their meals more by not having the food prepared in the hall. Naturally this led to two rooms in which fire was kept, and made difficulties. The primitive communal fire insurance of Iceland required that, if there were both a hall and a seething house, the householder must declare for which the community was responsible in the event of fire.

⁴ For concealment in case of attack. It was usually provided with an outlet for escape through an underground passage into an outhouse or the bushes. Of course it was also a good point of attack.

⁵ Some of the Icelandic chiefs had hot baths and piped water from the hot springs. This type of bath, now called Turkish, was common in Europe when furs were the usual array.

⁶ Like the contemporary "Russian stove."

the place of greatest comfort and the master shifted his seat to the end of the long table, but to this day tradition persists that royalty sit at the middle of the table.⁷ The stove or wall fireplace and the additional rooms removed much of the earlier character of the hall but it persisted so long in England's history that we shall often refer to it in our study of succeeding periods.

The period following Magna Charta was marked by the emergence of a bourgeois or middle class. This class existed in Greece and Rome but it was neither large nor powerful. In the Middle Ages the part played by the townspeople in the struggle for religious, political, and economic liberty is incalculable. At the early stages this part of society occupied a position only a little less wretched than that of the very poor, being without civic rights, and subject to arbitrary demands from overlords. For many years merchants and artisans were regarded as free spoil by the warring nobles, and their daily life was one of struggle, danger, and suffering. The poor lived in bondage, the rich in constant fear of pillage. The cost of the Crusades was high and taxation was heavy. Up to the third Crusade taxes had been levied only on land and the bourgeoisie were exempt, but thereafter a tithe of all personal wealth was assessed at two shillings in the pound. Richard Cœur de Lion, besides selling the dignities and offices of state to raise funds for his crusading forces, had to be released from his German prison at a price which laid a tax of five shillings in the pound on all movable property. The groans of the wealthy were heard everywhere.⁸

The travel-acquired taste of the barons demanded heretofore unheard-of luxuries. At the same time their absence had allowed the townspeople to flourish and grow rich. Medieval life, fed by many diverse fuels, flamed up in a brilliant light until it died out with the Wars of the Roses. Edward I was a great king and in his reign we may note the Model Parliament,⁹ the formation of

⁷ For example, it is said that Queen Victoria would never sit at the end of the table.

⁸ However, the Crusades stimulated trade and manufacture.

⁹ Two knights from every shire and two burgesses from every borough.

the British courts of King's Bench, Common Pleas, Exchequer, and Chancery, in essentially their present form, and an attempt to build up home industry by prohibition of wool exports. The people felt comparatively safe from oppression and lawlessness. Travel was common and the high road was a spirited place. The springless carriages or the litter on a horse's back were so uncomfortable that every one who could traveled on horseback. For protection against highway robbery, travelers grouped together in the manner of Chaucer's Canterbury Pilgrims. On the village green the fair was becoming an institution, and minstrels, pedlars, mountebanks, jugglers, and quack doctors were popular. It was on the whole a period of gayety, sunlight, and color, in which the tourney was not the least of the attractions.

THE MANOR

Meanwhile, despite the rise of the bourgeoisie, the manor was the backbone of the nation. The organization of the manor is significant enough to deserve some detailed consideration. The whole was of course dominated by the lord of the manor in spirit and by the shadow of the manor house in fact. There were three immense common fields (Fig. 51), one of which lay fallow while the other two were under crops of barley and oats. The fields were divided into strips of an acre by rough, more or less permanent, furrows known as baulks. The holdings of villeins were obtained through service. "In return for the land and permanent loan of implements and their initial stock both of animals and seeds, they worked three days a week on the lord's demesne land."¹⁰ Villeins might also be required for boon work at haying or harvesting. Later the service was commuted to a money payment.

Beyond the manorial fields was the village green. Around it were clustered the timber and wattle hovels of the tenant farmers and laborers. These huts were single rooms surrounded by the "toft."¹¹ On the river was a mill belonging to the lord, at which

¹⁰ "Home Life in History," p. 137.

¹¹ The term for "homestead."

the tenants had to grind their corn, the miller taking a proportion of the grain as toll. Thus the quarters were provided for the vassals and retainers of the overlord either within his castle walls or in times of peace nearby. Similarly the monasteries lodged their dependents in community buildings. Both castle and convent protected their dependents against marauders and outlaws. Naturally then with increases of population it was to be expected that others, not properly part of the feudal domain, should nestle their buildings as near as possible to the castle or abbey. As commerce expanded, these squatting communities grew into thriving towns with allegiance to the power which protected — in some cases indeed with divided allegiance, as in the town of Rochester, where there was both a castle and a monastery. This origin of the towns may account for the absence in England of town halls which are so important a feature on the continent.

The finer domestic buildings, however, were not at this time to be found in the towns or even in the castles, which largely harked back to the older fortified Norman buildings, but in the newer type of manor where the degree of protection now required was not such as to lend a savage and dark aspect to all the life within the walls. Let us therefore consider a thirteenth-century manor house in detail, trying to find one of moderate size for our study.

In most respects such a manor was not unlike its Norman predecessor. It was still oblong and still had a ground floor of masonry, vaulted, with one or two chambers, while above were two or three loftier rooms, one comparatively large. Between the two floors there was still no internal communication. The upper floor was reached by a flight of stone or wooden steps, placed sideways against the outer wall. The rooms had small windows, the lower ones mere slits for defense and the upper only large enough to furnish light "for a family of which probably none of the members could read or write."¹² The building

¹² Helm, W. H., "Homes of The Past" (John Lane Co., New York, 1921), p. 29.

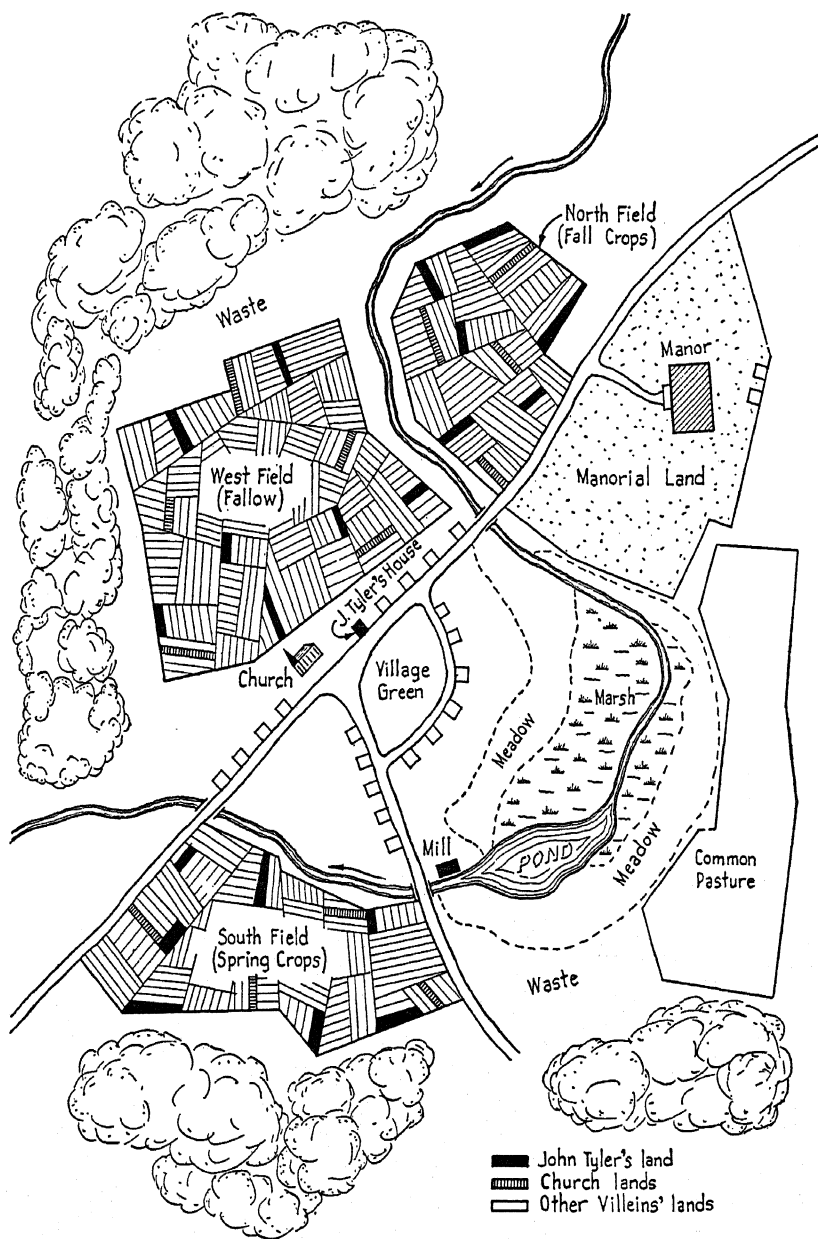


FIG. 51. PLAN, TYPICAL THREE-FIELD ENGLISH MANOR SHOWING ONE VILLEIN'S FIELDS

was occasionally built of brick instead of stone and the addition of a wing at right angles to the main body was becoming common. The principal development in plan consisted of an enlargement of the number of rooms. It is now we first hear of the buttery, the pantry, the larder, the wardrobe, the oratory. It

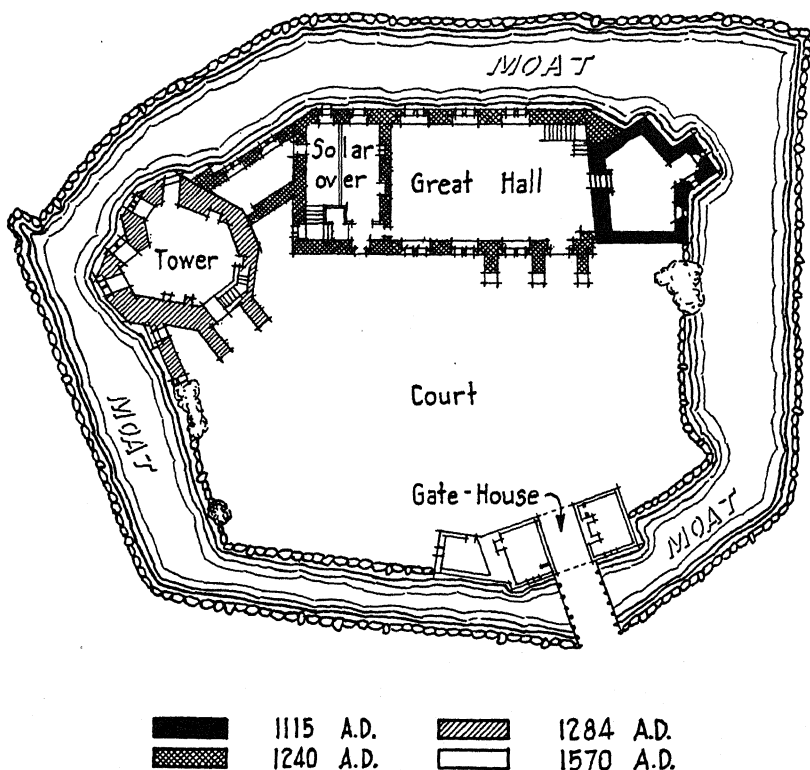


FIG. 52. PLAN, STOKESAY CASTLE, SHROPSHIRE (1240-1290)

After Fletcher's "A History of Architecture." Courtesy Charles Scribner's Sons

was still necessary to retain some defenses and there are records of many licenses to crenellate or fortify, granted by Henry III. Most of the windows were shuttered by wood and although glass was beginning to take the place of the shutters it was still an expensive foreign luxury.

The principal rooms were the hall and the *solar*. The hall in an average sized manor was sixty feet by twenty, paved with

stone flags. In the middle of the floor, peat and wood burned on a flat stone hearth slab. Several single-light square windows were set high in each wall. At the end nearest the *solar* there was a low dais occupying nearly the full width of the hall. Here was the trestle table for the family and the principal guests, although if the master were proud he might have a low dais and a separate table running across the room with a single chair

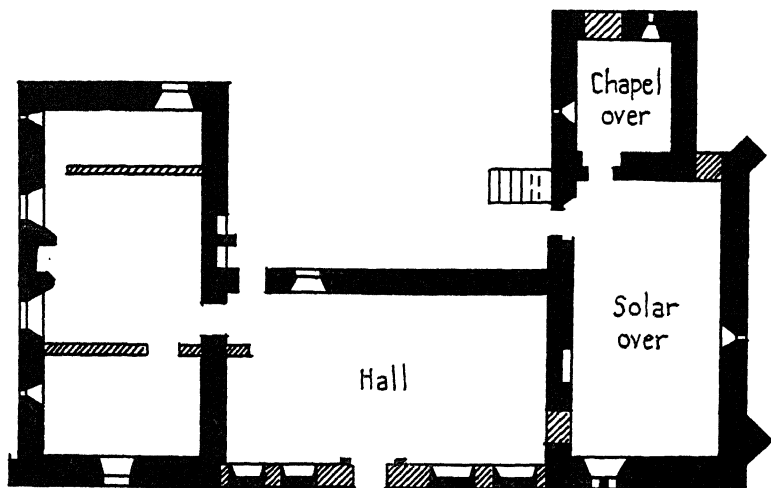


FIG. 53. PLAN, CHARNEY-BASSETT, BERKSHIRE (1270)

After Fletcher

behind it. The *solar*, twenty-five feet by twenty, had a lofty timber roof, an uneven board floor strewn with rushes and rosemary, walls roughly plastered and possibly painted in simple geometrical designs on a small scale. Windows were deeply splayed and barred with iron. Furniture was still scanty, boxes or chests, and pegs or projecting rods meant for hanging up personal belongings but frequently occupied by a falcon. The wealthier masters might have a bedstead and even one for a guest. The retainers, however, seldom undressed and usually lay on pallets of straw or hay with logs for pillows. In one of the outer walls of the solar there was a *garderobe* or urinal with a pipe through the wall to the moat.

Fortunately a number of manors of the period have been preserved in almost their pristine state. Stokesay Castle in Shropshire (1240-90) (Fig. 52) illustrates a fortified type of manor, and Charney-Bassett (Fig. 53) in Berkshire (1270) the more usual type. Better preserved than either is Boothby Pagnell (Fig. 54) in Lincolnshire, which is almost Norman in its simplicity. This house faces eastward and had at one time a moat around it. It is sixty-six feet by thirty-five, with walls thirty inches thick. A central doorway at the bottom leads to



FIG. 54. BOOTHBY PAGNELL, LINCOLNSHIRE

a vaulted crypt undercroft. The main entrance on the second floor is a Norman arch at the head of a flight of stairs at right angles to the building. One enters a lobby divided from a small room opposite the door by thin walls of wood and plaster. In this room there is a window seat built in the thickness of the wall. The hall is relatively small and across it run two big beams, supporting joists which in turn support the floor of the dormitory above. At the far end of the hall is a wall two feet thick and then the solar. From the lobby a ladder once led to the dormitory, which was also divided into two rooms and this instead of the room beyond the hall may have been the solar. Originally there was a barnlike wing for storerooms. It may be noted of Boothby Pagnell as of other medieval buildings that its walls are slightly out of true. This is supposed to be due to an

idea that if the walls were perfectly symmetrical the house would collapse, a superstition like that of Orthodox Jews who still leave their houses unfinished in some minor detail.



FIG. 55. LITTLE WENHAM HALL, SUFFOLK

It will be desirable to consider one other type of manor of the period dating from near the end of the fifteenth century. Little Wenham Hall (Figs. 55 and 56) near Ipswich represents a manor with a tower. It is rectangular in general shape, quite

ecclesiastical in appearance. It is strongly buttressed, has Gothic windows, a flat roof, and one of the crenellated parapets for which Henry III was always giving licenses. Most of the building is two stories although a tower stands higher. The main building contains two large rooms, a vaulted undercroft thirty-six feet by sixteen, and a hall above of the same size. The tower has a vaulted storeroom in its base opening from the undercroft. Above this is a chapel twelve feet square opening into the hall, and above it a chamber of the same size. A turret at the corner of the tower covers a newel stair which gives access to all parts of the manor. The materials of construction are here brick instead of stone, red brick imported from Flanders, somewhat longer than our modern material but of about the same width and thickness. Some flint is used. The buttresses and dressings are of stone and the design and tracery of the windows indicate considerable taste.

The great hall is a pleasant room with four two-light windows and deep seats in the embrasures. Originally the windows had no glass but were provided with shutters pointed in the medieval manner to match the openings. A cupboard is cut in the west wall, and in the south wall a recess for washing consists of a shallow cut basin and a waste pipe leading through the wall. Above is a hook on which to hang either a lamp or a can of water for supplying the wash basin. Little Wenham represents quite a step forward in comfort and even more in beauty from the manors of the beginning of the period.

Furniture in the hall was simple. A great slab of oak on trestles formed the table. Seats were rough benches and a jointed stool or two. Oak coffers served a double purpose, for storage and for seats. Utensils consisted of earthenware pans, iron stew pots, wooden platters and spoons, knives, drinking horns. In the room one would see a barrel of beer, another of mead, leathern wine jars, a hutch for bread, some bacon hung in the smoke of the fire. Rushes still carpeted the floor and a few scanty woven hangings decorated the walls or covered the windows.

Toward the end of the period furniture became richer. Bed-

steads grew common. Every household owned large mattress sacks which were kept in a chest, and straw from an outhouse was stuffed into them for the occasional guest. There were lockers for clothing and for keeping food. Cushions and curtains of wool or silk began to appear and it is reported that Eleanor, the Spanish wife of Edward I, brought in baths and carpets.

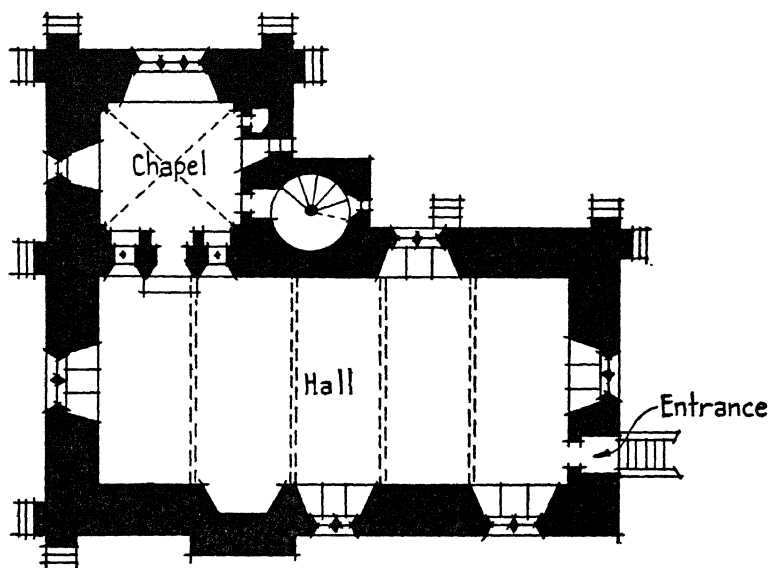


FIG. 56. PLAN, LITTLE WENHAM HALL, SUFFOLK

After Fletcher

Life in such manors as these described above was still simple and free from all the restraint of tradition that enveloped manorial life in the next centuries. The lord was awakened at half past five by his personal servant. He rose from a bed of feathers with feather-stuffed quilts. He did not wash, but dressed his flea-bitten skin promptly. Every other day he shaved. Over his body he drew a linen undershirt, then an under tunic of thin green wool extending to the knee, with long tight sleeves. Over this he put an upper tunic, a silver and leather girdle, knee drawers, woollen stockings, stout leather shoes with long pointed toes. His long hair was combed, on his head was

a fur-trimmed velvet cap. He sat on the edge of his bed, drank home-brewed beer from a crude earthenware cup, then went forth to look over his estates, returning in time for the principal meal. In the afternoon he might hunt, sleep, or look up some neighbors. The women of the well-to-do spent their days supervising the work of the house and the dairy, sewing and embroidering, and spent the short evenings in conversation with their husbands. On great occasions they rode forth with them for falcon hunting or to pay a call. A guest was an unusual experience and was forthwith installed in the bed chamber with the Lord and Lady.

The one regular meal of the day was at nine or ten in the morning. It consisted of bread, roast or boiled meats, game, salt fish on fast days, flat cakes, vegetables, the hardier kinds of fruit, milk, ale, and mead. There were few delicacies except spices and Flemish cheeses with occasionally an imported French wine. Tenderness of meat was not prized, fat being more esteemed. As Thomas Love Peacock says in speaking of an earlier age:¹³

“The mountain sheep are sweeter,
But the valley sheep are fatter;
We therefore deemed it meet
To carry off the latter.”

As a matter of fact, the salt beef eaten in the winter, quite as tough as the food of an arctic explorer or sailor on a windjammer, would have made any other kind of meat seem tender. The flour was of stone-ground wheat. Oaten cakes were common and the servants were largely fed on porridge. The vegetables and fruits might be beans, leeks, apples, pears, cherries, strawberries, raspberries, chestnuts, hazelnuts, pine kernels.¹⁴ Cider was a popular drink easily rivaling the muddy beer and *metheglin* or mead.

Meanwhile, however unluxurious life in the manor, the vil-

¹³ “The Misfortunes of Elphin.”

¹⁴ The merits of this food are little known today. It is said to be remarkably nutritious.

leins had a much harder time. The day from dawn to sunset was one of severe labor. The huts were single roomed and utterly squalid. However, the cottars dwelt in even worse estate. "Home life for the cottar class might indeed be compared very unfavourably with the home life of the Britons before the Romans came. The cottars held no property, but worked as general labourers either for the lord or his villeins . . . in exchange for just enough coarse food to keep them alive and profitably active for the benefit of their masters. Their miserable timber and wattle huts were ill lighted, ill ventilated, insufferably hot in summer, dark, damp, and draughty in winter, and altogether more like foetid pig-stys than human habitations;" ¹⁵ Piers Ploughman gives us a vivid idea of the poor man's fare:

"'I have no penny,' quoth Piers, 'pullets to buy,
Neither geese nor pigs, but two green cheeses.
And a little curds and cream, and unleavened cake,
And a loaf of beans and bran, baked for my children.
And I say, by my soul, I have no salt bacon,
Nor any cook-boys, by Christ, collops ¹⁶ to make.
But I have onions and parsley, and many cabbages,
And eke a cow and a calf, and a cart-mare
To draw a-field my dung, while the drought lasteth.
By these means must I live till Lammas ¹⁷ time;
By that time I hope to have harvest in my croft;
Then may I prepare thee dinner as thou dearly likest it.'
All the poor people pease-cods ¹⁸ fetched,
Beans baked into bread they brought in their laps,
Little onions their chief meat, and ripe cherries many,
And proffered Piers this present, to please his hunger with.'" ¹⁹

In the cities, life was developing. The town house was like the country house but of course less fortified since on the whole

¹⁵ Gloag and Walker, "Home Life in History," p. 140.

¹⁶ Bacon and eggs.

¹⁷ August 1st.

¹⁸ Pea-pods.

¹⁹ Langland (?), William, "Vision of William Concerning Piers the Ploughman, The," Trans. and ed. by K. G. T. Webster and W. A. Neilson (Houghton Mifflin Co., New York and Boston, 1916), pp. 56-7.

the citizen could depend on the walls of the city for protection. On the street floor of town houses shops had begun to be plentiful. Taverns were quite often underground and frequently entered by steps which encroached on the streets. Old accounts of the city of Sheffield show these encroaching stairs to have been taxed. Stories were already projecting to an extreme and the projection served to give shelter to stalls and booths below. In the twelfth century most of the houses in London were still only one story above the ground floor; but by the thirteenth the garrets, originally watch towers or lookouts, were beginning to play their part in housing the poorer citizens.

The merchant had a busy time, riding forth on his mule to barter, and his sons helped him at home and abroad; but daughters and mothers stayed at home in desolate, generally cold houses and did the housework.

There were inns in the town as early as 1160. William Fitzstephen, a monk of Canterbury, describes one of London by the river side: "There every day, according to the season, you may find all kinds of meat, roast, fried, and boiled; fish large and small, coarser meat for the poor, and more delicate for the rich, such as venison, chickens, and larks. However many soldiers or strangers enter or leave the city at any hour of the day or night, they may go into that house and have what they like."²⁰

Meanwhile there were efforts made in the city toward water supply, which up to this time had been non-existent. London, for example, depended on wells and nearby springs for its water until far into the Middle Ages. Servants or professional water carriers went to the reservoir and obtained water for individuals. But in 1235 a small amount of spring water was brought to London by lead pipe and masonry conduit. Fire departments there were none; police power was sketchy if it existed at all; and sanitation was conspicuous by its absence.

Such was the golden period of English feudalism, an age of color on the highway, the green, the tourney field; of drab life

²⁰ Helm, "Homes of the Past," p. 40.

in the home, full of discomfort, with an unattractive diet and squalor even among the rich. It remained for the solid bourgeoisie to bring about a change in living conditions. The nobles were about to plunge into the devastating Hundred Years' War with France and the internecine Wars of the Roses and thus forever to end their dominion.

CHAPTER XI

English Homes. From Crécy to the Wars of the Roses. 1338-1455

FROM its beginning the fourteenth century was turbulent. The strife with France which had really been in the making ever since William the Conqueror combined the English crown with French domains broke out in the Hundred Years' War, and on the whole caused a definite setback to agriculture and trade.

Shortly after the beginning of these wars, in 1348, while England was still enjoying great military successes, a horrible pestilence broke out, given the striking name of the Black Death. "Homes both great and small suffered dire losses, and famine followed the plague, threatening whole communities. Agriculture was paralysed, the harvest rotted in unattended fields. Terror begat hopelessness, and presently grave difficulties of administration began to crowd on one another, and perplexed landlords were at their wits' end to work their estates. Prices rose, the cost of living soared to unheard of altitudes."¹ Since the former "living wage" no longer procured a living for the tenant farmers they struck for higher wages, and the landlords had to cut down the number of their laborers and turn much of their farm land into pastures in order to meet the new scale of wages.

It has been stated that the Black Death killed forty per cent of the population. The law of supply and demand of course operated to assist the laborers and country people in their

¹ Gloag and Walker, "Home Life in History," p. 160.

demand for higher wages despite some legislation to keep them down. Thus the plague taught the lower classes that they were not entirely devoid of power.

Under Richard II the Kentish rebellion led by Wat Tyler, although it did not have any lasting effect, demonstrated a discontent on the part of the laboring classes at last become coherent. Langland shows the growing discontent of the laborers in "Piers Ploughman."

Despite the war and the plague, towards the end of the period England made progress in commerce and industries. Fine weaving was brought into East Anglia by the Flemings and members of the Hanseatic League. Luxury was more common.

Rather than the awakening of unskilled rural labor, the most significant social phenomenon in the period is the growth of guild organization concomitant with the growth of the town. We must therefore consider at some length the guild system and what it actually meant in the economic life of the Middle Ages.

THE GUILDS

The Middle Ages are particularly liable to romantic misconception. The general principle, in feudalism, of a responsibility laid on the master to care for those who acknowledge fealty is attractive to economists of a social turn of mind who regret the present lack of responsibility of employer to his employee. In applauding the theory these students neglect to observe the practice, which actually in the Middle Ages went just far enough to keep the vassal useful to the lord. In spite of the high ideals which they professed, the guilds too were often grasping, frequently arbitrary, in short human, and not different in their ultimate economic effects from the trade unions which followed them and which their admirers deplore.

Essentially a guild was a club, an alliance of a group of men with a common interest. Naturally then such organizations can be found far into antiquity. In Rome there were guilds of Flute-blowers, Coppersmiths, Fullers, Potters, Goldsmiths, Carpen-

ters, Dyers, Shoemakers, but the guilds of Rome do not seem to have outlasted its political disintegration.

The earliest medieval guilds were probably religious or of the *frith* type. It is certain that the first laborers who were organized were bondsmen of a monastery which loaned them for secular work with provisos against their constructing anything that might cause death. In ancient municipal law the *carpentarii* or vehicle builders were graded according to estimated value to their owners. Thus bondsmen were provided by the monasteries with homes, with occupation, and were segregated in their dwellings according to trade. It was natural that craft guilds should have been formed with a religious bias when bondage ceased.

In Saxon England we find the *frith*, a defensive type of organization, highly necessary in those times. Such brotherhoods held monthly meetings with a feast, the remains of which were given to the poor; on the death of a member each brother gave a loaf of bread to the guild and sang fifty psalms. There was a rude form of insurance and each brother contributed to a fund to reimburse members from accidental loss, and one shilling when a thief was to be caught. In Exeter one guild caused every brother to contribute a penny when a member's house burned down, a form of mutual fire insurance. But the chief purpose of the *frith* was military and naturally various *frith* guilds of the same town banded together in defense. These alliances imperceptibly developed into town government.

Another type of guild of no great importance to our study was the religious guild which was founded by the Church to promote its pomp and ceremony. Thus we find the sole ostensible purpose of the Corpus Christi guild of York was to assist in celebrating the feast of that name. One guild had as its sole function the lighting of one candle, once a year. Others provided performances of Miracle Plays.

The more secular guilds were of greater importance in moulding the life of the community. The merchant guilds appeared before the craft guilds had attained importance. That

of the wool trade was apparently first in England. In the twelfth century small groups meeting together were looked at askance and a merchant guild had to obtain charters. Thus in 1177 the merchants of York paid ten pounds to Henry I. Probably these guilds were formed in connection with the powerful Hanseatic League. They were composed of the better classes of burgesses and citizens and developed in time into the town corporations. Their constant policy was to keep the foreigner out of the domestic market if he tried to sell goods that could be made at home. At the same time, to prevent exploitation, the domestic price was fixed by statute. Though the merchant guilds consisted chiefly of merchants, craftsmen were not originally excluded, as they frequently traded in raw materials. For example, in the time of Edward III the tailors were the customary importers of woollen cloth. In scope, then, the guilds were like the modern trade associations except that in the Middle Ages there was probably more give and take among the members than it is possible to obtain in the modern counterpart.

Despite the importance of the merchant guilds in developing local government, it is the craft guild which plays the most important part in the building industry and which is most frequently pointed to as a model organization by admirers of things medieval. Accordingly the craft guild deserves a somewhat closer scrutiny. The general purpose is indicated by the name. It was an association of craftsmen with a religious and social purpose. Its aims were to maintain stainless moral conduct and honor among its individuals; to sustain a standard of work, no member being admitted unless he had proved himself a proper workman; to preserve the quality of the tools used, no member being allowed to possess tools unless the same were certified to be good and honest. Moreover the guild members were forbidden to mix inferior materials with the better sort to the detriment of the buyer; measures were taken to protect the public against the spoiling of materials entrusted to the craftsmen for manufacture; sanitary regulations were enacted to protect both the quality of the work and the health

of the workmen; a member was not to work for a customer who had failed to pay a brother; so long as members were unemployed a brother could not employ a non-member; laws provided for internal arbitration before recourse to law against another member of the same guild. All of these regulations were highly beneficial and when observed necessarily redounded to the credit of the craft.

The guilds flourished mightily. In the time of Edward III there are said to have been 40,000 such organizations in England. They embraced every imaginable craft with subdivisions that would do credit to a mass-production factory.²

The most important building crafts were the masons and the carpenters. "Carpenter" originally meant the one who made the *carpent* or heavy cart. Then carpenters went over to wood work in general, but the heavy work was allotted to them and doors and furniture to the joiners. The masons because of their close connections with the Church always made more of rites and ceremonies than any other group in the guild system and continued to exist in the Masonic Order.

The plasterers were also an old guild, probably older than the bricklayers and tilers. In the fourteenth century we find Adam the Plasterer making an agreement to plaster the great hall of the Earl of Richmond in London and its chimney with plaster of Paris in eight weeks for twenty-four pounds, a definite contract. In 1329 Hugh de Hecham, a "lymbrennere" was put in jail for extortion in asking 1½d. instead of 1d. for lime.

Within each guild there were three grades of laborers, master, journeyman, and apprentice, all proud of the craft and

² Thus in London we find among others (not all crafts) Mercers, Merchant Tailors, Drapers, Haberdashers, Clothworkers, Weavers, Goldsmiths, Coppersmiths, Silversmiths, Ironmongers, Armourers and Braziers, Cutlers, Cordwainers, Leather Sellers, Skinners, Saddlers, Tanners, Bakers, Fishmongers, Butchers, Salters, Pepperers and Spicers, Vintners, Brewers, Innholders, Tailors, Chandlers, Crossbowmen. The handy man was always a menace to the craft organization and stringent rules were passed to prohibit a cordwainer, for instance, doing any of the work of a saddler or tanner and vice versa.

jealous to maintain its reputation. Only an approved master could take an apprentice and he was personally responsible for the lad. The apprentice lived in the master's house first on the basis of fees paid and later on the basis of wages received. The journeyman was one who had passed his seven years' apprenticeship, lived with the master as a companion, and was paid wages and found. Master and apprentice were naturally stationary, the journeyman moved about, but the name is probably derived from the French *journée*, i.e. one who works by the day. A master could not dismiss a journeyman except before a court of the guild. As soon as the latter had saved enough he might set himself up as a master if he wished. In the thirteenth century a journeyman apparently had enough to live on decently, and probably rather more than a modern skilled workman in Europe prior to 1914.

The guilds struggled hard to obtain a monopoly in their trade and to preserve and perpetuate trade secrets and methods. There was a great sense of unity, a mutual provision for feasts, medical care, burial, insurance, unemployment, and poverty. They carefully prevented other guilds from engaging in their work.³ They tried as hard as they could to prevent non-members from getting work.⁴ And they did maintain quality.⁵ Despite

³ From a Composicon indented 1598 in the 41st year of Elizabeth for the carpenters of Kingston upon Hull, "Item that no Joyner nor Shipwright shall at any time or times in privat or publicke worke any worke apperteyning properly to the carpinter to worcke, . . . upon paine of everie day doing contrary to loose any pay for the same, xij d., and he or they within this towne that sett soch aworck everie day likewise to forfaitte xxj d." Taken from Lambert, J. Malet, "Two Thousand Years of Gild Life" (A. Brown and Sons, Hull, 1891), p. 260.

⁴ "Item, further, no inhabitant within this towne other than the saide company of carpinters and any or everie of him without the consent of Mr. Maior for the time being shall sett on worcke any carpinter not free of the said company in paine of everie day xij d., and everie soch carpinter to pay for everie soch fault for everie day xij d." *Ibid.*, p. 260.

⁵ From the Composicon of Bricklayers, Hull, 1598, "Item that if any breickmaker make any breicke or tyle within this towne or countye to sell here in Hull, the same shalbe vewed by the saide Searcheres, and if the same be not good and sufficient it shalbe seized and forfeited by theim, and if it be good they shall pay to the saide searcheres for use of the said company for everie thousand viewing iij d., and soe after that raite for more or lesse number." *Ibid.*, p. 273.

their religious basis they were not above resorting to strike or violence. Thus in 1230 the *Fratres Barbatii*, a Cluniac order of masons who prided themselves on being bearded, were ordered to shave in accordance with the Cluniac rule and refused. By threatening to burn every cloister and cathedral in the country, they made their point and retained their beards. The barbers of Coventry having agreed not to do any more shaving until prices were raised in the year 1396, one John Wilnhald turned blackleg and shaved people anyway. He was assaulted and injured. The strikers were tried and convicted but pardoned by Richard II who saw justice in their cause. Strikes in the building trades were common. The craftsmen moreover were given to prejudice and to coloring facts, as in the amusing petition below.⁶ Finally "We see the troubles and disputes of the trade unions of to-day, and consider them

⁶ "Kingston upon Hull.

To the right worshipfull John Ramsden, maior, and the aldermen his bretheren, all happines with increase of worshipp in this life and in the life to come, the joyes eternall.

The humble petition of the wardon and brotherhoode of Breecklaiers of the said towne.

Complainyng sheweth unto yor worpss that whereas one James Hudson, an Englishman, and by occupacon a breecklaier, dwelling at Amsterdam, in Hollande, is of laite arrived at this porte, and here dothe remaine and worke, deludinge diverse of the inhabitants of the same, p'swading them that their chimneys be very insufficientlie made for avoiding of smooke, and that he can with a small cost amende them, although he doth not so, but rather makes them worse, to the cost of the owners, and the great hurte and discreditt of yor worpss petitioners as wilbe justlie p'evd unto yor worpss, and the hinderance and impoverishing of them their wives' children and s'vants, whoe have no other meanes to live and maintaine themselves, but by their occupacon, And for that yor worpss have graunted unto us a composicon under the towne's seale, and confirmed or booke of orders under yor sev'all handes for the avoidinge (among other things) of straungers and interlopers, and for the better living and maintenance of us or wives and families, and having no other meanes for redresse of theis and suche like wrongs, but from yor worpss (as helpers and defenders of us and others in such like caises). Therefore we are bolde to laie open or greifes and become most humble suters unto yor worpss, Desiring yor worpss for godes cause (the p'misses duellie considered) to avoide the saide James Hudson and such others, and com'aunde him to forbear working in such sorts as he doth, and not to scandalize and wrong yor poor pet'coners, but that we have and enjoye all oure p'viledge according to our saide composicon and true meaning of our orders as heretofore we have hadd, and as we hope is yor worpss true intent and meaning. And we accord-

unique, but if we look back to mediaeval days we shall discern their counterparts in the numerous quarrels of the old Trade Guilds both with the merchants and amongst themselves." At one time the Provision trades were allied against the rest of London. "Early in the 15th century there was a great quarrel between the Guilds of the Merchant Taylors and the Skinners over their precedence, during which blows were exchanged, and several liverymen were killed." ⁷ Thus we find that the guilds of the Middle Ages worked against the open shop, struck for higher wages, and indulged in jurisdictional disputes, all in the name of the traditions of their craft. Their technique was strikingly similar to that of modern labor.

The decline of the guilds began in the middle of the fifteenth century although they lasted formally until 1700. This decline was inevitable with the growth of cities, expanding markets, the state regulation of industry, the extortionate demands of increased regal power, and the use of machinery. In the villages individuals exercised various crafts at will. The guilds tried to prevent this by passing such orders as that there should be no weaving in certain villages around Worcester, but these regulations were vain and unenforceable. The guilds were weak in that they had no flexibility, nepotism had grown to a dangerous degree, inter-guild quarrels sapped their energy, and they guarded their monopolies over-jealously. They could not survive changed conditions.

In this description we may have erred on the side of severity in an effort to counteract the romantic halo that is usually placed around the guilds. Their best features were a fine unity between employer and employed, a genuine pride in product,

ing to bounden duetie shall dailie praie unto god for the good and p'sperous
estaite of yr wor^{sh}ps ev' to endure.

Yor worshipps peticoners, the warden and companie
of Breeklaiers within Kingston upon Hull"

Ibid. p. 271.

⁷ Armitage, Frederick, "The Old Guilds of England" (Weare and Co., London, 1918), p. 160.

and a national patriotism; their worst, the injustice, jealousy, and greed apparently inseparable from human institutions. On the whole they were highly beneficial and did much to carry labor along the road to economic emancipation.

LABOR LEGISLATION

The growth of strong organizations of craftsmen naturally led to counter action by statute. The first laws against combinations appear in 1303. A mass of medieval laws against labor, some as late as Queen Anne, were all repealed in 1824 after they had ceased to be enforced. The most important were those of 1349 and 1389, both illustrating the mind of the Middle Ages. The law of 1349 was passed immediately after the Black Death, when the craftsmen were using the law of supply and demand to obtain what seemed at the time extortionate compensation. This statute made an attempt to fix maximum wages and was based on the idea that the first duty of the state was to protect the weak against the strong. There was so much distress that it was quite necessary to prevent labor from trading on it. The law of 1389 was milder and merely provided that Justices of the Peace of each county should make proclamation as to how much carpenters, masons, and other artisans should take with or without found, a rather nice recognition of the importance of local conditions in determining wages.

TOWNS

The growth of the guilds, coupled with the increase in power of the merchants or burgess class, assisted the rapid development of towns. The medieval town, like that of antiquity, had streets that almost without exception were narrow and mean; but in the Middle Ages there was a good and sound reason for this. "Space within the city wall was limited. Every extra hundred yards of length in the wall meant more danger and less security, and, therefore, the streets must be made as narrow as was consistent with a measure of free passage for carts and cattle." ⁸

⁸ Aldridge, "National Housing Manual," p. 60.

Picturesque these crowded ways must certainly have been. The tradesmen used symbols, a bush for the vintner, three gilded pills for the doctor,⁹ a white arm with stripes of red on it for the surgeon barber, a horse's head for the harness maker. There were no sidewalks and the pedestrian kept in the middle of the street, looking out for slops that might be thrown out of the window at any time.¹⁰ Down the middle a series of broad flat steps were laid, called in continental countries the burgomaster's stones since the ordinary citizen had to step off if the mayor came along. Stepping off was a serious business for, from the middle of the street to the houses, there lay a vast collection of filth ripening to be taken to the farms in the spring. Into this heap was thrown all the house refuse. There were no lights at night and every one kept pretty well indoors. In the daytime, moreover, the streets were none too light. We have already spoken of the tendency to project the second story out from the first. The narrow confines of the rapidly growing medieval town forced the houses up and each story might be projected beyond the next lower until attics almost touched across the street.

Now that they stand clear, we can see a great deal of charm in a row of such houses, for instance those in the Place Gordaine in Bourges. But in olden times city streets must have been very bad, dark, unventilated, and noisome.

TOWN HOUSES

In the development of better town houses the effect of these projecting stories was beneficial in one respect at least. The house owner had to use larger windows in order to get any light at all and the large windows now replacing the narrow slits of less secure times were never entirely abandoned henceforth. Glass was still very scarce and confined to the houses of the wealthy. Richard II issued a writ to scour the counties of Norfolk, Northampton, Leicester, and Lincoln, to find glass to

⁹ This symbol passed to the loan business when the Medici left the medical profession and took the emblem with them.

¹⁰ In France at least the householder usually called a warning. The custom was retained in Edinburgh as late as 1821 when the cry was "Guardy loo," a curious corruption of the obvious though obsolete original "*gare de l'eau!*"

repair the windows of his castle at Stamford. Chimneys, however, were in general use.

Looking at a typical house of a prosperous burgess, we find



FIG. 57. 15TH CENTURY HOUSES, THIERS, FRANCE

inside the front door, generally open in the daytime, an ante-room larger than in later dwellings. Here overclothing and weapons of guests were laid aside. From this vestibule a door to the right led into the workshop of the master and apprentices.

A door to the left led into the living room, which was the center of the house and was lighted and warmed by a hearth fire under a chimney hood. Sometimes there were box beds in this room and food was still served here from an adjacent kitchen. Above there was a great room containing the important bed, sometimes called the "heaven bed," the most valuable single piece of property in the house, and other valuables. Originally, in these houses, the staircases were on the outside but in time they were brought indoors and were very narrow and steep in order to save space. As a relic of the former outside stair, there remained an open gallery along the front of the house, under the roof, from which the purest air that the town afforded could be obtained. The stone walls of the rooms in the earlier part of the Middle Ages were uncovered and cold; only the living room had a fireplace. The house was dark even in the daytime and at night a few feeble lamps or candles or the glow of the hearth furnished the only illumination. The streets in the Middle Ages were dark at night, but in 1416 the Mayor of London ordered all prosperous citizens to hang lanterns in front of their homes. Thus in the fifteenth century the matter of lighting had at least reached the same point as that of the Egyptians.

While the upper trading and craft classes were improving their housing, the homes of the poor remained wretched. Almost all of the houses within the city walls belonged to the middle classes and the poor lived in mean huts outside the walls. Their huts flanked the roads leading to the gates and in time of attack they could flock into the city for protection. The walls were of wood, the roofs of straw, the floor of beaten earth, the furniture and utensils primitive.

Sanitation, meanwhile, was no better than hitherto. Cleanliness was nowhere esteemed a great virtue in the Middle Ages except perhaps in Holland, where the traditional Dutch *mevrouw* is supposed to have scrubbed her floor so hard that she wore it through and fell into the cellar. Fires came along every sixty years or so and purged the towns of their accumulated filth. The occupants of houses were indifferent to things con-

cerned with health. They dispensed entirely with ventilation except as forced upon them by bad carpentry and defective masonry. We cannot wonder greatly, considering the difficulties of heating. They permitted a degree of filthiness in their homes which we should today find intolerable in our streets. The *garderobe* developed in the thirteenth century still drained into the moats of the castles and, in the town houses, excreta were collected in cesspools below the floors, whence they occasionally were piled in the street to ripen for fertilizer. "The people prayed for deliverance from sickness and death, but forgot their garbage heaps, their foul streets, dirty houses and personal uncleanness."¹¹

None the less there were efforts toward better things. The first sewer of England is recorded in the fourteenth century; "The refuse from the king's kitchen had long run through the Great Hall in an open channel, to the serious injury to health and danger to life of those congregated at court. It was therefore ordered that a subterraneous conduit should be made to carry away the filth into the Thames." During the same reign, that of Richard II, a penalty of twenty pounds was imposed on anyone who polluted wilfully the "ditches, rivers and waters."

Building laws were not unknown. Stow, writing in 1603, says that in London up to 1200 the roofs were of wood covered with reed or straw but that after that date the Mayor's ruling and subsequent ordinances ordered them to be built of stone and covered with slate and tiles.

MANORS

Meanwhile, despite the growth and development of the town which we have emphasized, the manor still was the home of the highest civilization of the period. In plan the building did not depart much from the early Saxon hall with its hall, solar, kitchen, cellar. Construction became sturdier and thatched

¹¹ Bayles, James C., "House Drainage and Water Service" (D. Williams, New York, 1878), p. 8. The Black Death was a pestilence of the typhus variety due of course to just the conditions we have been describing.

roofs were replaced by low pitched coverings of stone tiles borne by heavy oak beams. The degree of fortification diminished and may have been quite as much for show as for use when the manor became less military and more a home. The parlor was developed about this time for the purpose of furnishing a place more private than the hall and less familiar than the chambers for the reception of people who came on business or as formal callers. Thus the beginning of the decline of the hall as an all-purpose room had set in. The gloom of the main rooms was often dispelled by larger and more numerous windows. The walls were brightened by tapestries or paintings and the oak

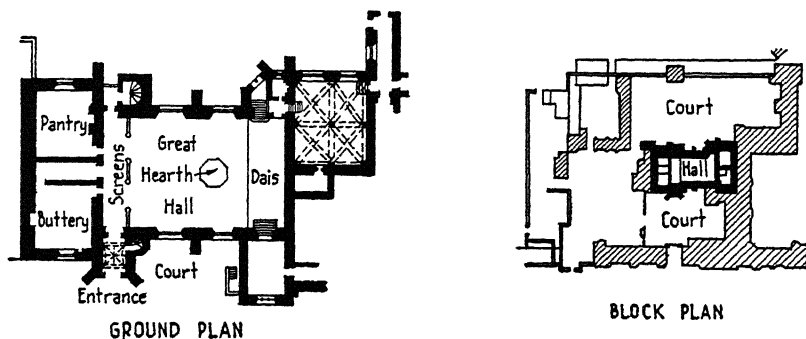


FIG. 58. PLAN, PENSURST PLACE, KENT (1388)
After Fletcher

rafters were painted or carved. Fireplaces were more common and the internal staircase began to be the usual thing.

A typical manor house (Fig. 58 illustrates the plan though not the one described) was rectangular in shape and castellated; had a central courtyard entered through a gatehouse protected by portcullis and drawbridge spanning the moat. Opposite the gatehouse a porch led to an entry or vestibule separated from the hall by a screen with two doors, while on the other side of the hall were three doors into the kitchen and offices. "Screen" is the word usually applied to the whole of this entry, over which was the minstrels' gallery, a characteristic feature of the lofty halls of the period. Beyond the dais might be the family apartments and the chapel. This era

marked the greatest development of the hall, which still was a sleeping room for retainers. The fireplaces were likely to be placed against the walls with hooded canopies although some still had the central hearth and house louvre in the roof. The old solar became a "withdrawing room" and often was on an upper floor, from a spyhole in which the master could observe the hall.

Alfriston is a characteristic manor of the period. This has a

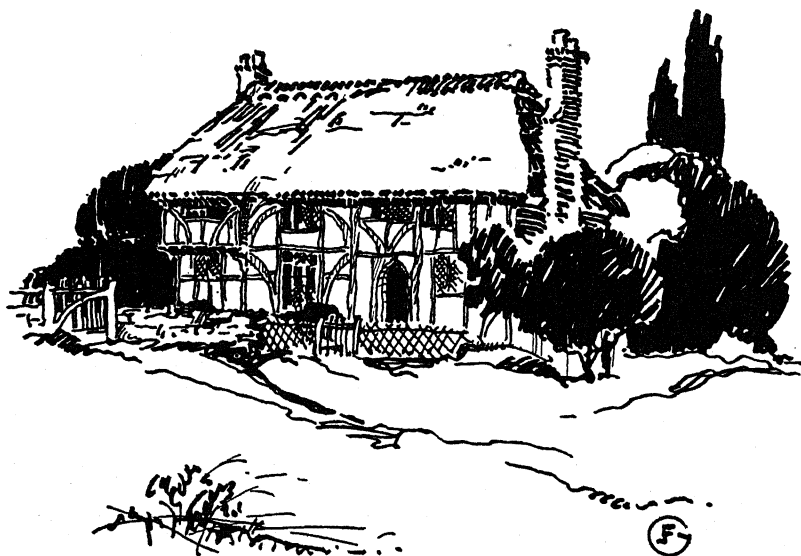


FIG. 59. ALFRISTON

timber frame filled with brick, clay, and plaster, thatched with straw, its general shape like that of a large barn except for the windows and the internal partitions. The hall is twenty-three feet by seventeen, framed with oak posts and strengthened by curved timbers. The open roof is supported by tie beams and king posts, some of the beams ornamentally carved. At either end of the hall there are two rooms, one above the other. The chimney is of brick.¹²

¹² An interesting idea of a stone house of the period may be found in the orders and the agreement for the building of a stone house at Lapworth. The

These English houses despite their increased light and somewhat more commodious plan, increased space, and rudimentary corridors, were still not very comfortable, and far behind houses of the same period on the continent. Furniture was scarce and if a gentleman's family moved from town to country and back it was preceded by carts carrying the household goods. There may have been carpets on the floors of the parlors. There was usually but one chair in a room although there might be many benches. The clumsy trestle tables were now solid and always remained in the halls firmly set on the rush-strewn floors, which still "told the story of a hundred meals."¹³ Bare benches were the most common pieces of furniture but were occasionally replaced by "cushioned settees with high backs . . . and restful, draught-screening pieces . . . they were."¹⁴ The bedrooms occasionally had tiled floors. The curtains were of a large and formal pattern. There was probably a big open stone fireplace, a "tester" bed with abundant bed clothes, an open cupboard with a basin and ewers. Sometimes there was a lavatory basin with waste pipe in the bedroom but this was an exceptional convenience.

building was to be 40x18 inside, the end walls and gables to be 3½ feet thick, others 2½. On each side they were "to construct a base chamber with a fire-place and a wardrobe extending out of the said chamber, with proper windows and doors; and on the other side of the same doorway there was to be a chamber without a fire-place and wardrobe, but with fitting doors and windows. The principal doorway was to be of such size as the said Sir John should determine; and on each side of the entry there was to be a stone wall as high as the doorway, to which walls two columns of stone were to be affixed on which the leaves of the door might be suspended; and this doorway, together with the base chambers, to be eleven feet in height from the ground to the first rafters. Above the doorway and the two base chambers they were to build an upper chamber of the length and width of the house, with two fire-places, two wardrobes projecting out of the same chamber, and with fitting doors and windows . . . this sovereign chamber to be nine feet high from the floor to the rafters, and alures (parapets) of stone two feet and a half in height were to be raised above the roof timbers. The principal doorway was to be so constructed that a drawbridge might be fitted to it."—Helm, "Homes of the Past," p. 50.

¹³ Gloag and Walker, "Home Life in History."

¹⁴ *Ibid.* p. 149. — Such furniture was a great advance in view of the drafts in the hall.

When dwellings have become comparatively complex as those we have described, the family life and the housekeeping that went on in them deserve attention. We can surmise much of the occupations and cares of the women, who then, as always, prepared the food and made and mended the clothes of family and dependents. Whether lady of the manor or goodwife of the town house, the woman of the Middle Ages commands our respect by the extent of her knowledge and skill. She had to spin, weave, sew, embroider. She had to understand cookery, baking, brewing, cheese making. The castle or manor had to be almost entirely self-sufficient in all the domestic arts. The storage of meat for the winter called for such salting, spicing, and smoking as we can hardly imagine. In the *Canterbury Pilgrims* the Franklin is described as an epicure. He had so many of "alle daintees that men coude of thinke" that "it snewed in his house of mete and drinke."

"His table dormant in his halle alway
Stood ready covered the longe day."¹⁵

Very little imagination is needed to realize that his wife was well occupied in superintending the work that these lines imply.

Children, servants, apprentices in the town, village poor in the country, relied on the mistress to supply their needs and nurse their sickness. Training in the use of herbs and in minor surgery was part of a woman's education. Undoubtedly convents, where the life of a community, including dependents, was carried on in safety under strict authority, must have influenced this administrative side of the life of women. Girls were frequently placed for a time in cloisters for safe keeping, and the ideals of a conventual life were peace, order, economy, industry, and the creation of beauty. The training of her own children and such others as might be added to her household as pages

¹⁵ The cook traveled with the pilgrims "To boile the chickenes and the marie bones, and poudre marchant, tart and galingale, well coude he knowe a draught of London ale. He coude roste, and sethe and broile and frie, maken mortrewes,^b and wel bake a pie."

and bower maidens or waiting maids was no slight duty. The feudal system may be credited with the cultivation of good manners. A treatise on moral and domestic economy by a citizen of Paris about the year 1393 deals with the prime virtues in a wife;¹⁶ to love God and her husband. Her duties to the latter are set forth at length. Besides showing patience and obedience, she must keep him warmly clothed in fresh clothing, and he instructs her in detail how to keep clothes in good condition, free from stains and moths. An amusing section of this book throws light on a chief indoor activity of the Middle Ages, the incessant and relentless pursuit of the flea. "The Goodman of Paris" gives no less than six recipes for destroying this plague.¹⁷ There is also a detailed treatise on gardening, of which she must know a good deal. The longest section deals with servants, cooking, hunting, hawking, parlor games, and riddles.

There was still no improvement in the homes of the rural serfs, who lived in miserable villages. Village building material was wattle and daub, or stones and dried mud, with a roof of straw on light timbers. The building itself consisted of a large room below and a room under the roof which was at once a granary and a sleeping room. One reached it either by a ladder or a very rough wooden stair. A ground floor was used for all the work of the household. The floor itself was of beaten earth, the furniture a few wooden benches, a table, a copper pot. Pieces of meat drying for winter use hung from the ceiling. There was a sort of primitive chimney and a great mantelpiece, above it a rude cross. At night the serfs who could not afford candles burned resin torches.¹⁸ "The rough jingle of rhymes attributed to the hedge priest, John Ball:

‘They have leisure and fine houses,
We have the rain and the wind in the fields.

¹⁶ This material is drawn from Power, Eileen, "The Goodman of Paris" (*Le Ménagier de Paris*), (G. Routledge and Sons, Ltd., London, 1928).

¹⁷ "The flea is a lyttell worme and greveth men mooste . . . and spareth not kynges" — Trevisa's Bartholomew, Lib., XVIII.

¹⁸ A pound of candles cost a full day's labor of a powerful man.

Yet it is from us and our toil
That these people hold their state,'

probably gives a more true picture of the feelings of the poor than the fanciful imaginings of a happy peasantry living an idyllic life in a Golden Age."¹⁹

¹⁹ Aldridge, "National Housing Manual," p. 68.

CHAPTER XII

English Homes. Period of the Wars of the Roses. 1455-1485

DESPITE their devastating effect on the noble families of England, the Wars of the Roses had almost none on the daily life of the people. Barons' quarrels exclusively, they did not affect farmers and tradesmen, who, working instead of fighting, steadily increased their prosperity. Merchant princes were as rich as nobles and the dress of the laborers also was rising in quality. In this era Caxton introduced into England the art of printing, which was to have almost incalculable effects. Material fruits of the Renaissance in Italy and France reached England in fabrics and furniture, rich food, luxuries of every sort. Fashions and interests stimulated by knowledge of foreign lands were gratified by expert craftsmen.

During these thirty years life in the manor grew much more luxurious, complex, and formal, and with this change went great alterations in the building which sheltered that life.

The practice now began of building around a courtyard. Gateways were placed in the middle of the front wall. It was the last century in which a moat was regularly dug in preparation for a new homestead, but even now in the more peaceful sections the old moats began to be filled up and planted with flowers. Chimneys were now projected to the top of the building and in a few cases had more than one flue. The manor as a whole began to develop more comfort and privacy. A characteristic building, Oxburgh Hall (Fig. 60), shows the chief features. At each end of the hall there were gabled wings two stories high, one

with the parlor, the great chamber or living room, the private chapel, family bedrooms and the like; the other wing devoted to kitchens, butteries, larders, brewhouses, and other domestic offices and servants' quarters.

Ockwells, in Berkshire, is a remarkably well preserved exam-

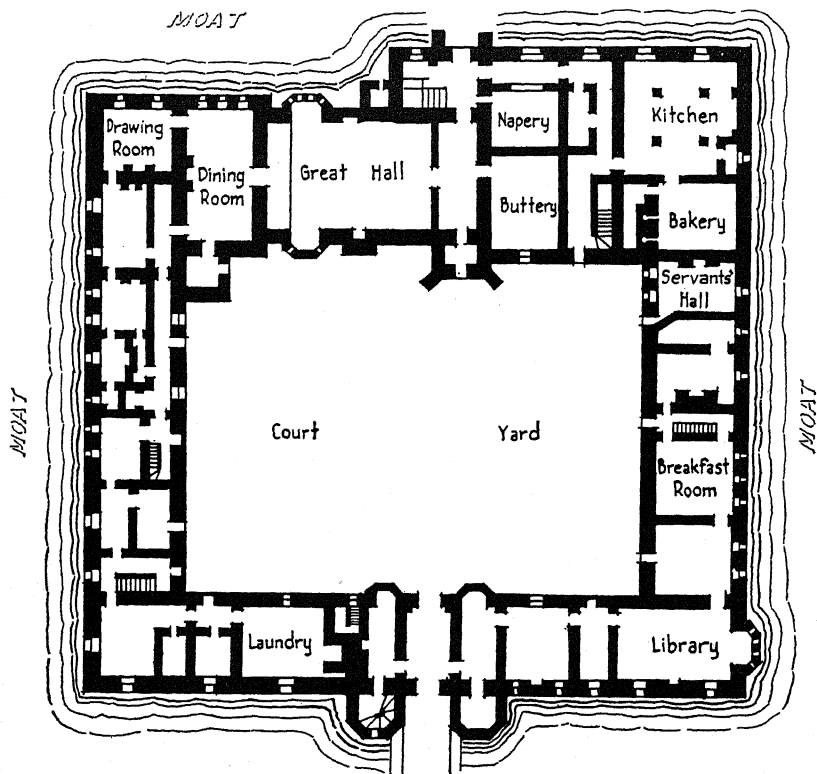


FIG. 60. PLAN, OXBURGH HALL, NORFOLK (1482)

After Fletcher

ple, situated in a rich pasture land surrounded by many trees. It is of brick and timber built around a small court. Corridors surrounding the court have almost continuous windows of small diamond-paned glass on the court side.

On the right as one enters through the porch is the hall, at the end of which is the screen. The kitchen has a huge fireplace.

The rooms are spacious and there is a great deal of paneling in wood. The building is abundantly lighted and originally there is said to have been much beautiful colored glass. The chimney piece is very important and elegant.

At the same time that the house itself had expanded in its size and services and particularly in the freer admission of sunlight, there was a tremendous expansion in comfort and beauty of



FIG. 61. OXBURGH HALL, NORFOLK

furnishings. In the hall was a large oaken table on trestles, uncovered except at meals. On either side of the table were benches or forms and at each end a carved chair. There were several handsome chests in oak or elm, rich cloth hangings, an oak livery cupboard for plate. On a dresser or shelves were brass candlesticks, pewter ware, a brass mortar with an iron or stone pestle. There were plenty of cushions on the seats and mats on the floor, where, however, rushes were still found. On the walls hung weapons, cross-bows, spears, shields or even suits of armor. Oc-

casionally there were weight clocks against the walls, writing boards, wheel book stands sparsely furnished with books, elegant chess and card game-boards.

In the bedrooms the massive four poster was common. The beds had both hard and soft mattresses and feather beds were plentiful. In the bedroom, too, there might be a fireplace although to use it was indeed a luxury. The interiors painted by Jan van Eyck¹ and the next generation of Flemish painters

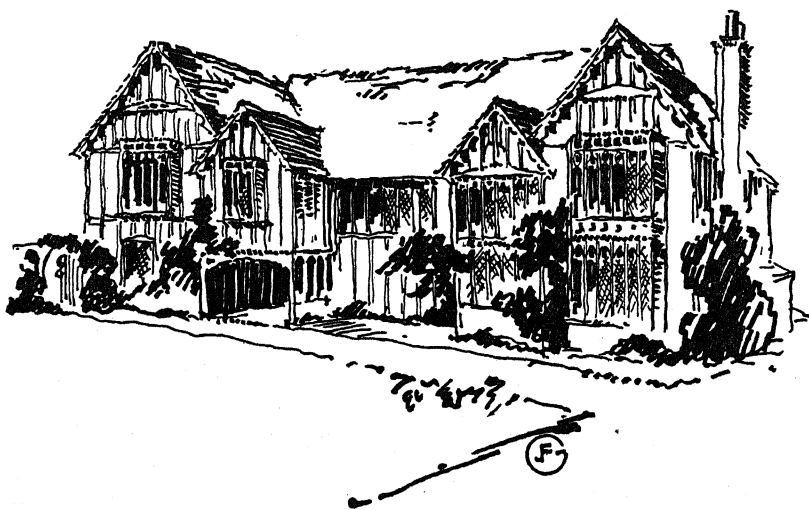


FIG. 62. OCKWELLS MANOR

give a good idea of what elegance there was in the period. Dress too was excessively elegant although nightgowns were still apparently a luxury.

Food had become elaborate and dining lasted for hours, and cooking was a fine art. There was a big open grate in the kitchen fitted with spits, bars, and hooks, for cooking. Spits had been turned by boys but the ingenuity of the period devised a sort of dog wheel resembling a squirrel cage by which a dog much like a dachshund could turn the spit, incited to action, it is said, by putting hot embers on his tail. This seems to have been a French importation.

¹ 1386-1440.

Dinner was still at noon and every one went to sleep afterwards, in the arbor in the summer, in the house in winter. Supper was a "light meal" and might consist of cold meat, cheese, fruit, and apples just before bedtime. The posset cup² was the last thing taken before retiring for the night.

At table, manners were ceremonious, as is indicated by this description in the Harleian manuscript of the squire's duties.³ The squire must say

"'God-speed' on entering his lord's room, and after saluting all present to kneel to his lord. He is to stand until told to sit. At noon, which was dinner time, he is to fetch clean water for his lord to wash his hands with, and to give him a towel. He is to cut his bread on a trencher, and not break it; by no means to dip his meat into the salt cellar, nor put his knife into his mouth. He is to taste every dish brought to him and to have a clean knife and trencher for his cheese. When the meat is finished he is to clean his knife and put it away. . . ."

"The groom shall also be continually in the hall at the first meat⁴ or supper to bear away the dishes and keep out hounds and fetch sauces . . . and the yeomen, grooms or groom, or usher shall set up boards and make ready the stools before meat and bear them away afterwards; and when the lord is set the marshall and server shall fetch in his courses and make an obeisance to the lord. When the lord is served then shall another esquire serve the other messes at the borde. And forthewith the almoner shall bring in the alms dish with a loaf therein and set it beneath the lord's salt or else upon the cupboard, and a little before the second course the almoner shall take of every 'great meat' in the first course a serving and put it in the alms dish."⁵

The more wealthy of the bourgeoisie followed the nobles in dividing their tables between the higher and lower by a great

² A mixture of milk and sherry or some other wine.

³ Harl. Ms., 5086 (1475), as quoted and modernized by Gloag and Walker, "Home Life in History," p. 171.

⁴ *I.e.*, dinner.

⁵ British Museum Ms., Addl. 37969, as quoted and modernized by Gloag and Walker, "Home Life in History," p. 170.

salt cellar.⁶ Men and women sat alternately at table and each pair ate from the same plate and drank from the same cup.

Books on etiquette of the period exhort their readers not to spit on the table and not to return back to their plates the food they have just put into their mouths.

As we have said, food was elaborate and heavy, with meat predominating. Such dishes as Jussell (eggs and grated bread seasoned with sage and saffron), double roasts made by cooking a small bird inside a large one, and Blanc Manger (made of pounded chicken, flour, almonds, and cream) were not at all uncommon. The menu for a somewhat elaborate dinner of a very wealthy man is as follows:⁷

1ST COURSE

Brawne with mustard	Furmenty ⁸ with venison	Mawmeny ⁹	Pheasant
Swan Capon	Carpeis of Venison	Young Heron	Bream
Royal custard ¹⁰	A subtlety ¹¹		

2ND COURSE

Roasted crane	Roasted venison	Conyng (rabbit)	Betore
Partridge	Curlewe	Carp	Tart Royal

3RD COURSE

Cremes	Jelly	Brows	Boiled chickens
Melons	Roasted plover	Rabbits	Quails
Blancmange	Queens bakyn		

Many servants were obviously necessary to provide and serve such meals, and their duties must be specialized to be skill-

⁶ Their use accounts for the elaboration of detail indulged in by Cellini and other master silversmiths on an otherwise comparatively unimportant article.

⁷ Gloag and Walker, "Home Life in History," p. 173. Menus from "Two Fifteenth Century Cookery Books," E. E. T. S., Vol. XCI, Book II, *circa* 1450.

⁸ A porridge of wheat husked and boiled in milk.

⁹ Minced meat cooked in wine with cinnamon, pine nuts, sugar, cloves, almonds, ginger, salt, and saffron.

¹⁰ Marrow and marrow broth, pounded almonds, cinnamon, ginger, and sugar baked in pastry cases at the bottom of which were raisins and dates.

¹¹ Of sugar paste and jelly. This particular one showed St. Anthony and a bishop in full canonicals.

fully performed. An elaborate analysis of such service is given thus:¹²

Servants' "number and duties varied with the means and methods of their household. . . . The *CHIEF STEWARD* . . . had to superintend the servants, see that 'their livery be clean, neat and comely worn, and that their shoes be good also.' He is to 'keep account of the alms, that it not be wasted on tips to boys and knaves about the Hall, or spent on supper dainties for grooms.' He is to 'make his household dine together in the Hall, sitting together in fellowship.'

"The *CLERK*, often a monk, who kept accounts and rolls and records. His underlings weighed, checked, counted and overlooked the rent payment of goods and work. . . .

"The *MARSHAL* had to present guests, messengers or important matters to the lord, and submit his orders to the other servants.

"The *USHER OF THE HOUSE* had charge of the main household affairs; he had under his charge the *GROOM OF THE HALL*, who saw to the cleaning of the Hall; cleared it of loiterers as required. His *PAGES OF THE HALL* would put up and remove the tables, issue straw for the sleepers at night, arrange for the changing and clearing of the rushes on the floor, fetch fresh boughs to fill the torch rings in summer, and stop dog fights at meal times.

"The *GROOM OF THE FIRES* attended to fuel supplies, torches and flambeaux. His *PAGES OF THE FIRES AND LIGHTS* would carry torches, light bedroom fires, give out candles to the squires (and extra good ones for the clerk and doctor!)

"The *GROOM OF THE DOOR* attended to all comers at the gate noted who came out and in, had horses ready for a sudden call; kept off vagrants, but let in clever mountebanks or story tellers who could perform at meal times and amuse guests.

"His *PAGES OF THE DOOR* had a busy time running messages, fetching alms from the clerk for this beggar, or payment for some unexpected purchase made at the door, or perhaps help-

¹² Hartley, Dorothy and Elliot, Margaret M., "Life and Work of the People of England" (B. T. Batsford, Ltd., London, 1926-31), *The Fifteenth Century*, pp. 25-26.

ing in some sick villager for whom the kind lady of the house was going to 'do something.' The *GROOM OF THE STABLE* was important, also the *GROOM OF THE WATER*, and many others. . . .

"The *BUTLER*, then, must see that his sideboard is well arrayed — that his silver and pewter plate shines well, and that the pages who have charge of the wash hand bowls, serve the guest well and cleanly. These pages must have one clean towel over the shoulder, one clean for each guest, and one to wipe out the basin — and 'let him see the ewer water be fresh and sweetly scented with mint or fragrant leaves.' . . .

"The *GROOMS OF THE CHAMBER* had charge of bedrooms; they had to make the twisted straw pallets for the beds, see that the feather beds and wool overlays were well made; to take charge of the women who supplied and mended the blankets, sheets, pillows and rich coverlets. These grooms had to bring in baths and washing water; meals served in bed; and as soon as the lord had risen and gone to Mass they had to rush in and turn the bedroom into a day sitting-room, remaking the bed, hanging curtains and valances, laying counterpanes and cushions, floor tapestries and chair covers as required.

"The *GROOM OF THE WARDROBE* was valet to the lord. He brushed his clothes, helped him to dress in the morning, and his last duty at night was to tuck him in bed, give him a drink, set the night-light in a basin of water and turn out the dog or cat."

Home life had its complexities in the fifteenth century.

CHAPTER XIII

English Homes. Tudor, Elizabethan, Jacobean. 1485-1628

UNDER the Tudors English life felt the full tide of the Renaissance. The monarchy was stronger than at any other time. Henry VI founded King's College, Cambridge. Henry VII filled his royal coffers but patronized the arts and sciences, building the exquisite chapel that enshrines his tomb in Westminster Abbey and encouraging the voyages of the Cabots. Henry VIII in the early years of his reign made his court the center of the New Learning, of artists and craftsmen and musicians, of revels and spectacles and pageants. The Field of the Cloth of Gold was only the most celebrated of innumerable displays of royal splendor. Nearly twenty years of peace brought great prosperity to Henry's grateful subjects and wealth flowed into luxury. Festive celebration of weddings and christenings, present giving,¹ amazingly elaborate dress,² and the breakdown of the old sumptuary laws; all these things and a lusty spirit of enjoyment characterized society in the Tudor period.³

¹ Gloves were a frequent gift, and silverware, as spoons at a christening.

² A suit of clothe's could cost as much as five horses.

³ Anybody who could, still ate too much. From the Percy book of accounts for 1512 we find (taken from Helm, *vide supra*, p. 83):

"Breakfast during Lent for the Earl and Countess: A loaf of bread in trenchers, two manchets [The finest kind of white bread or a loaf of the same.] a quart of beer, a quart of wine, two pieces of salt fish, six baconn'd herrings, four white herring, or a dish of sprats." For the nursery, "a manchet, a quart of beer, a dish of butter, a piece of salt fish, a dish of sprats or three white herring."

When it was not Lent or a fast day the same as to bread, beer, and wine but half a chine of mutton or a chine of beef boiled instead of fish. In the nursery, three boiled mutton bones.

The numerous schools and colleges founded about this time testify to the strength of the movement called the New Learning. The great scholar of Holland, Erasmus, visited England, and from his letters and the writings, especially the *Utopia*, of his friend and host, Sir Thomas More, we can gather many impressions both of the material life of the time and of the rare atmosphere of that witty, humane, and nobly serious circle of scholars. In the family life of More we trace qualities of beauty, tranquillity, and vivacity that would adorn any age. In the house at Chelsea that still stands, "The delight of the young husband was to train the girl he had chosen for his wife in his own taste for letters and for music. The reserve which the age exacted from parents was thrown to the winds in More's intercourse with his children. He loved teaching them, and lured them to their deeper studies by the coins and curiosities he had gathered in his cabinet. He was as fond of their pets and their games as his children themselves, and would take grave scholars and statesmen into the garden to see his girls' rabbit-hutches, or to watch the gambols of their favorite monkey. 'I have given you kisses enough,' he wrote to his little ones in merry verse when far away on political business, 'but stripes hardly ever.'"⁴

Music, classical studies, curiosities, the teaching of children, gardens, with pets and games, these are the graces and perhaps the justifications of leisured and wealthy lives. Their finest flowering is not among the very great but rather in those ranks which at this period of English history were decidedly reinforced. The servants of the crown, lawyers, judges, comptrollers, clergy and officers of the universities, physicians, and other learned men, these professional classes recruited from the noble

At dinner near the middle of the day there were boiled vegetables and salads, bitterns, peacocks, cranes, swans, heronshaws, ginger, raisins, dates, apple marmalade, preserved and fresh fruits. The bun became generally recognized in the Tudor period. Of course small round cakes are known from the dawn of history.

⁴ Green, John Richard, "A Short History of the English People," Vol. I, Ch. VI, Sect. 4.

families and from the townsfolk, may be seen, together with their wives, as interesting human figures in the innumerable portraits and drawings of Holbein. In his *Ambassadors*⁵ the accessories of the picture, tapestry, a Turkey rug, scientific

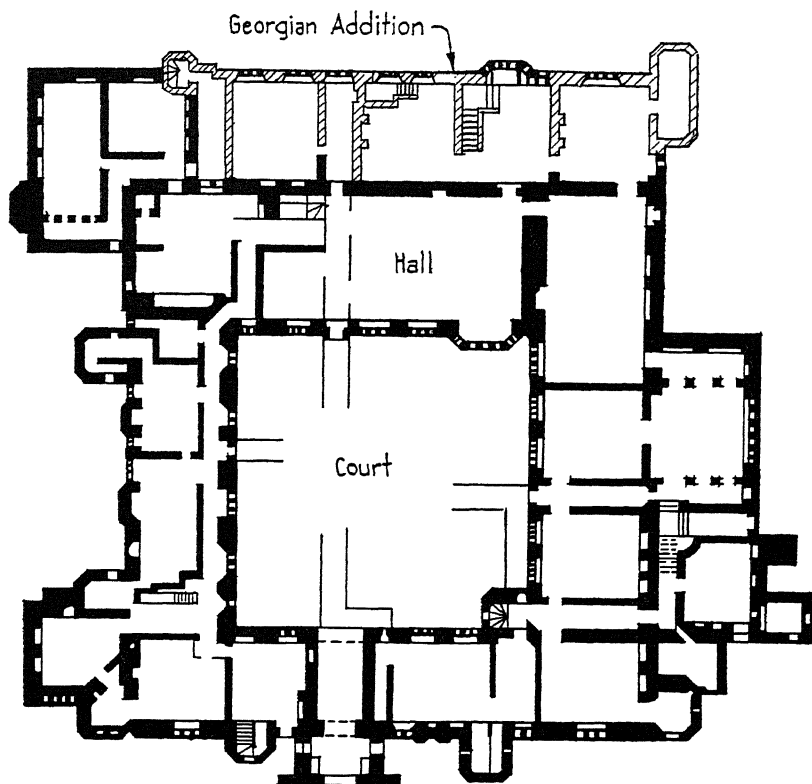


FIG. 63. PLAN, COMPTON WYNYATES, WARWICKSHIRE (1520)

After Fletcher

instruments, a globe, books, the burgomaster's keys, a lute, are symbols of the rich and varied life of the English gentry. Sir Francis Bacon's career and works also illustrate the intellectual reach of courtier and country gentleman.

Music, instrumental and vocal, was universally enjoyed in a way that we can hardly realize. Part singing was a common

⁵ National Gallery.

social pastime, and the madrigal, a richly harmonized song, flourished in England for a century. Elizabethan literature need only be named to recall a host of images, ideas, associations, that are the precious heritage of the English-speaking world.

The Reformation influenced profoundly this cultured family life. The Bible was read not only in churches but at home, and everywhere with enthusiasm. Furthermore, when marriage was permitted to the clergy, talent and fine character, hitherto sterilized by celibacy, could be transmitted; and a new type of home appeared in England, that of the country parsonage, combining some of the best elements of life in manor and in cottage. In clerical families were bred very many of the great men of England, soldiers, statesmen, discoverers, leaders of thought, and builders of empire.

Three generations were normally to be found in a house in Elizabethan and Jacobean days. The birth rate apparently increased and the death rate decreased, and for twenty-five years, from 1580 to 1604, there was no visitation of the formerly chronic plague. Scurvy, the curse of rich and poor alike, induced by the use of salted meat almost exclusively all winter, was greatly lightened by the introduction of a variety of vegetables from Holland, of lemons from the Mediterranean, and in the reign of James of potatoes from America. So health improved (though very little was done about sanitation in city streets as yet) and the great increase in population that was soon to overflow into the American colonies filled yeomen's cottages and manor houses with vigorous youth.

The castle or fortified residence that was a necessity to the medieval baron was now rebuilt or discarded by the Elizabethan lord or squire. Of the fine houses of England a very large proportion date from the Tudor times and the reigns of Elizabeth and James. Hampton Court, built by Cardinal Wolsey, is one of the grandest, but the smaller manors are quite as typical and much more charming. At the dissolution of the monasteries many abbeys became private houses and were of course altered to fit the taste of the time. Often the old stone buildings were

used as the core of a new T-shaped structure of stone and oak. Plans of Longleat House and of Hatfield House are typical.

There was a great increase in the number of materials available. Brick now became definitely common. It was made from local clays slowly baked with wood whose fumes improved the glaze, and Tudor brickwork remains one of the most beautiful architectural achievements of any time. Eton College, except the chapel, is almost entirely of brick. Houses might be constructed of stone, brick, or half-timber and half-plaster, but the loveliest combined all these materials.



FIG. 64. COMPTON WYNYATES, WARWICKSHIRE

Gardens in the Italian style enhanced the loveliness of these houses, but many were placed in sites which few would choose today. The river side, the deep bottoms of valleys, were favorite spots and apparently dampness did not bother the builders, though in 1542⁶ the following rules for house placement were advocated: The air must be "pure, frisky, and clean." The exposure should be east-west or northeast-southwest but never north and south for "the south wind doth corrupt and doth make evil vapours."

Although there are architectural differences in the houses of the Tudor, Elizabethan, and Jacobean periods, each of which

⁶ Boorde, Dr. Andrews, "The Dietary of Health," as quoted by Helm, W. H., "Homes of the Past," p. 74.

has given a name to a style, the principal difference between them for our purposes lay in the gradual change from the enclosed court such as we found in the preceding period and in the Tudor era⁷ to a court which was open on one side, thus developing wings, and the long gallery of which we shall speak shortly.

Meanwhile in France house design was at least one hundred years ahead of that in England. This may readily be seen by

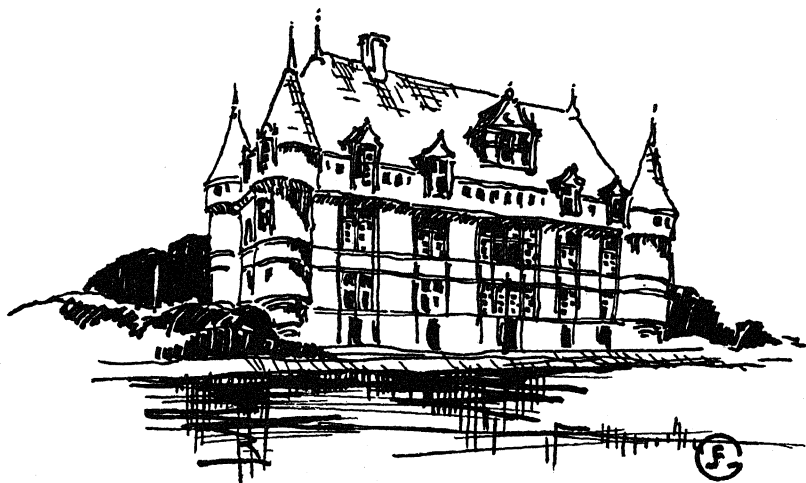


FIG. 65. CHÂTEAU AZAY LE RIDEAU, FRANCE

comparing the Château of Azay le Rideau (Fig. 65), built in 1518, with Coleshill (Fig. 72), built in England in 1650.

There was one significant innovation toward the end of the Elizabethan era in the corridor. Passages had hitherto been regarded as not particularly important and servants often had to cross the main rooms to reach their own quarters. The new ideas of comfort and luxury called for well developed corridors, as will be observed in the plans (Figs. 66, 67). Longleat shows a gallery but only around the court, essentially merely a covering of a portion of the court which had previously been used for communication. In Hatfield House (Fig. 67) on the other

⁷ Figs. 63 and 64 show a good example.

hand we find the long gallery, which starting as a communicating passage soon developed into an important room, and one which the wealthy vied with one another to make longer and more elegant. The peace of the period made comfort the paramount consideration; and about the only remnant of defense is to be found in the secret retreats and passages with which

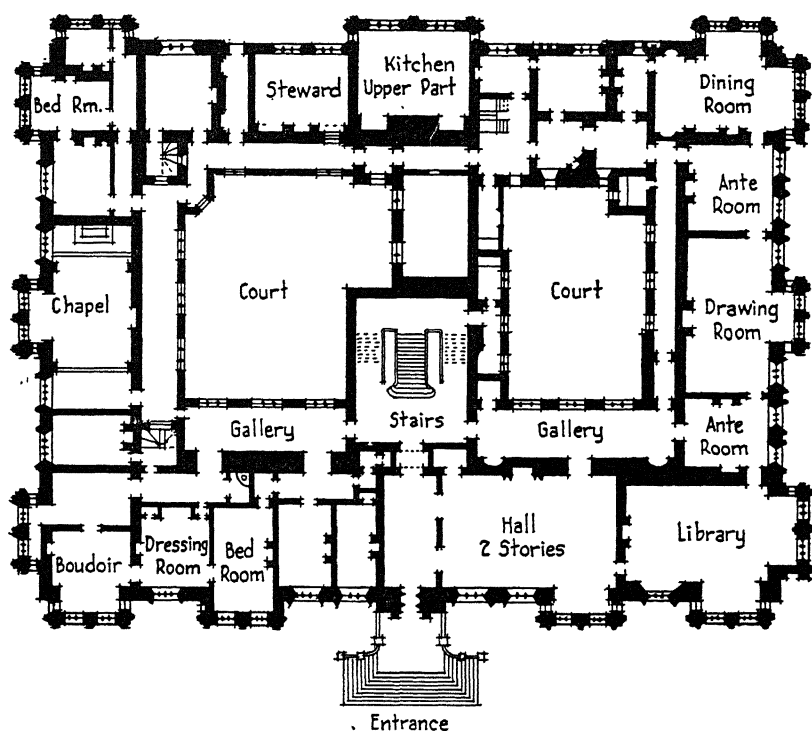


FIG. 66. PLAN, LONGLEAT HOUSE, WILTSHIRE (1567-1580)

After Fletcher

the manor houses abounded and which according to romances were to serve the Cavaliers in their flights from the Roundheads.

Wood was very commonly used in beautiful paneling in the interiors, particularly in the smaller rooms. Plaster, which in Wolsey's time was considered a sign of grandeur even when plain, was commonly used in tasteful decorated forms in Elizabeth's later years. Glass was still rare up to the time of Henry

VIII and in the riots of Oxford in 1502 the glass windows were carried off as rich booty by the rioters. Moreover, Sir Thomas More in 1510 says, "They keep the wind out of the houses with glass,"⁸ indicating that such practice was only just established. As late as the sixteenth century glass did not pass to the heirs of the estate but to the heirs of the personal property. A similar provision was to be found in the laws of Germany at the same time. In 1658 the King's palace in Scotland had windows that were glazed only in the upper part, the lower half having shutters or folds to open to admit fresh air. When glass was used it was tastefully displayed (Fig. 68).

The change in furniture of the period was more in the direction of increased comfort than in that of new forms. For the first time chairs outnumbered benches. Bedsteads took on a new elaboration in ornament and hangings, cushions were more plentiful, although the beautifully carved chairs were rarely upholstered. Rushes on the floors were replaced by Turkey rugs. Framed tables were beginning to be used. Cupboards, which originally had been just what the name implies, now had doors; and costly cabinets held books and other treasures. Carving was profusely used on furniture, chimney pieces, and balustrades.

In the meantime the condition of the poor suffered from exactly the changes in society that had enriched the squires and gentlemen. Enclosure of arable land for pasture threw out the farmer. More wrote that the farmers "were got rid of either by force or fraud, or tired out with repeated wrongs into parting with their property." His remedy for the social disorder, sagacious as it was, had to wait two centuries to be realized. "Let the woollen manufacture be introduced, so that honest employment may be found for those whom want has made thieves or will make thieves ere long."

The enormous amount of vagabondage in the reign of Henry VIII especially and the futility of the severe laws against it were remedied to some extent by the "Poor Laws" of Eliza-

⁸ "Utopia."

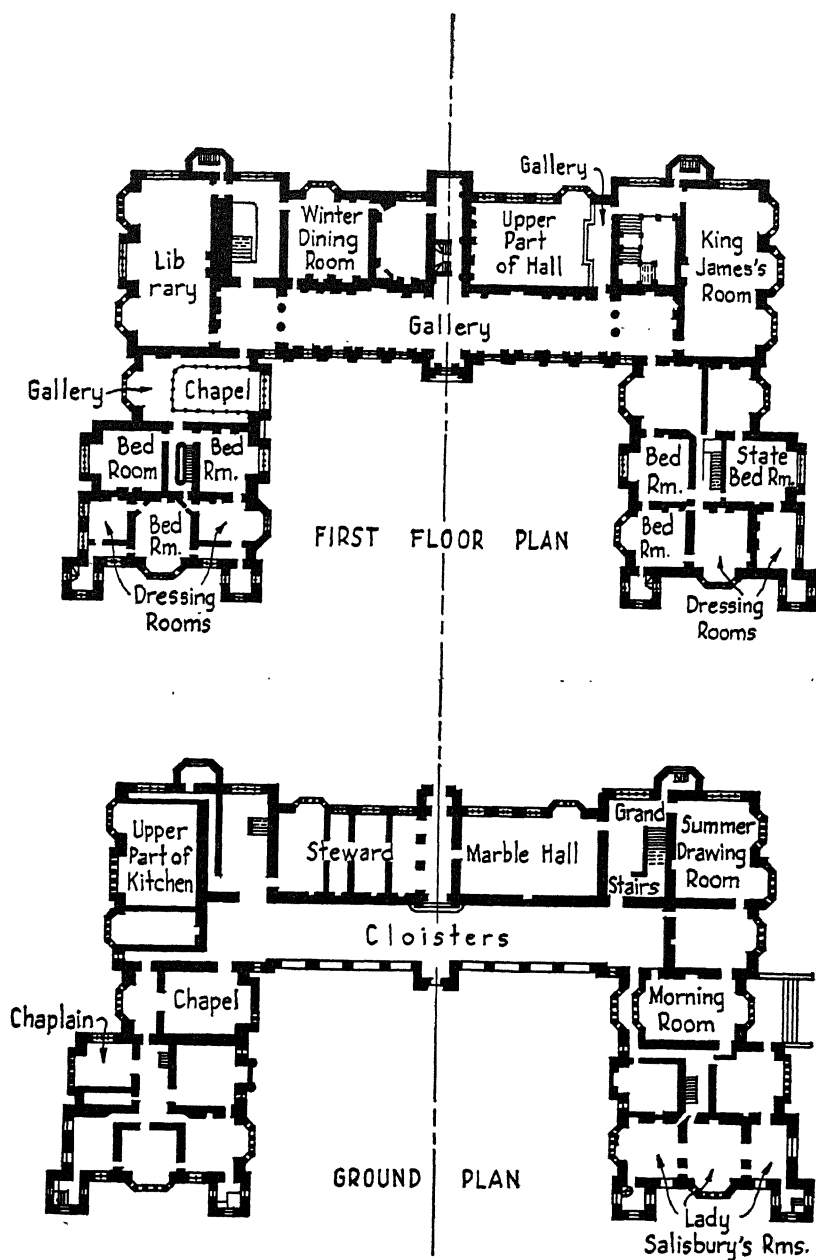


FIG. 67. PLAN, HATFIELD HOUSE, HERTFORDSHIRE (1607-1611)

After Fletcher

beth, and still further by the improvement in agriculture and the increase of manufacturing. Furthermore English commerce and shipping gave employment to more and more each year, and finally in the reign of James the colonies provided a place for large numbers of the dissatisfied and less fortunate surplus.

In 1566 the Royal Exchange was founded by Sir Thomas Gresham. Trade with the Mediterranean, with the Baltic, with Russia by way of the White Sea, with the Gold Coast and the Indies, with the Americas, all this and the Companies con-



FIG. 68. A TUDOR COURTYARD

trolling it enriched the merchant class not only in London but in Bristol, Hull, Southampton, and scores of other coast towns.

The town house of the merchant or manufacturer was adorned and furnished quite as richly as the manor. The demand for services in a house had vastly expanded the number of rooms, which were now low-ceilinged, built at random, with steps from one to another and full of blind staircases, so that it was easy to get lost in a house. Any one familiar with some of the converted old London hotels of Mayfair, much newer of course, will have an idea of the passageways and bends of a town house of the period.

Where the streets were wide enough the increase of carts and

coaches moved the pedestrians' passage from the middle of the street to a space as near the houses as possible. There were no sidewalks, but a little later posts were placed to distinguish the walking space from the roadway.

Sir Walter Besant's description of street conditions⁹ helps to convey the whole picture. He says:

"From the beginning of the sixteenth century to the Great Fire of 1666, London, crowded and confined, abounded with courts and



FIG. 69. "THE JEW'S HOUSE," LINCOLN

slums of the worst possible kind; it swarmed with rogues and tramps and masterless men who lived as they could, like swine. There were no great fires to cleanse the city. The condition of the ground with its numberless cess pools, its narrow lanes into which, despite laws, everything was thrown, its frequent lay stalls, the refuse and remains of all the workshops; the putrefying blood of the slaughtered beasts sinking into the earth—must have been truly terrible had the people realized it; but they did not."

⁹ As quoted by Aldridge, "National Housing Manual," p. 83.

Despite these terrible conditions there were signs of improvement. Water closets, which had been used somewhat in France and Spain for a considerable time, were introduced into England in the reign of Elizabeth. In 1619 the New River company laid pipes through the city of London and for the first time the general practice was adopted of supplying each house with water. The house supply was at first intermittent and consumers had to lay in a supply during the hours of service. Laws governing plumbers' apprenticeships show that there was such a trade.

The peace and order of these times made it possible for the well-to-do to move from the crowded parts of the city to the freer air of the outskirts or to frankly country homes. A pleasant specimen of such an abode may be found in Hall's Croft in Stratford-on-Avon, which has a sentimental significance as well, having been the home of Shakespeare's eldest daughter Susanna and her husband, Dr. John Hall. It is a fine example of the rambling, many gabled, oak and plaster dwelling of a comfortable citizen. The stair is well carved. The kitchen is floored in stone. There is a deal of molded plaster work. The frame is solidly constructed of wood joined and pinned together with oak. Poorer families but still of the middle class lived in such buildings as "The Jew's House," Lincoln (Fig. 69).

At the beginning of the seventeenth century a middle-class family usually had only two principal rooms in its home. The smaller was a combined kitchen, dining, and living room, in which the family spent most of its time. It had cupboards built along the walls for storage and servants often slept in it. In this room was a mighty fireplace with spits and pots and a massive table. After meals the head of the house did his work at this table and every one stayed in the room as much as possible to conserve light and fuel. The larger room was a bedroom for the heads of the family and in it were received formal visitors. The house was not large nor commodious but the furniture was good and there really was a considerable degree of comfort.

The town houses were a development of the type of house we

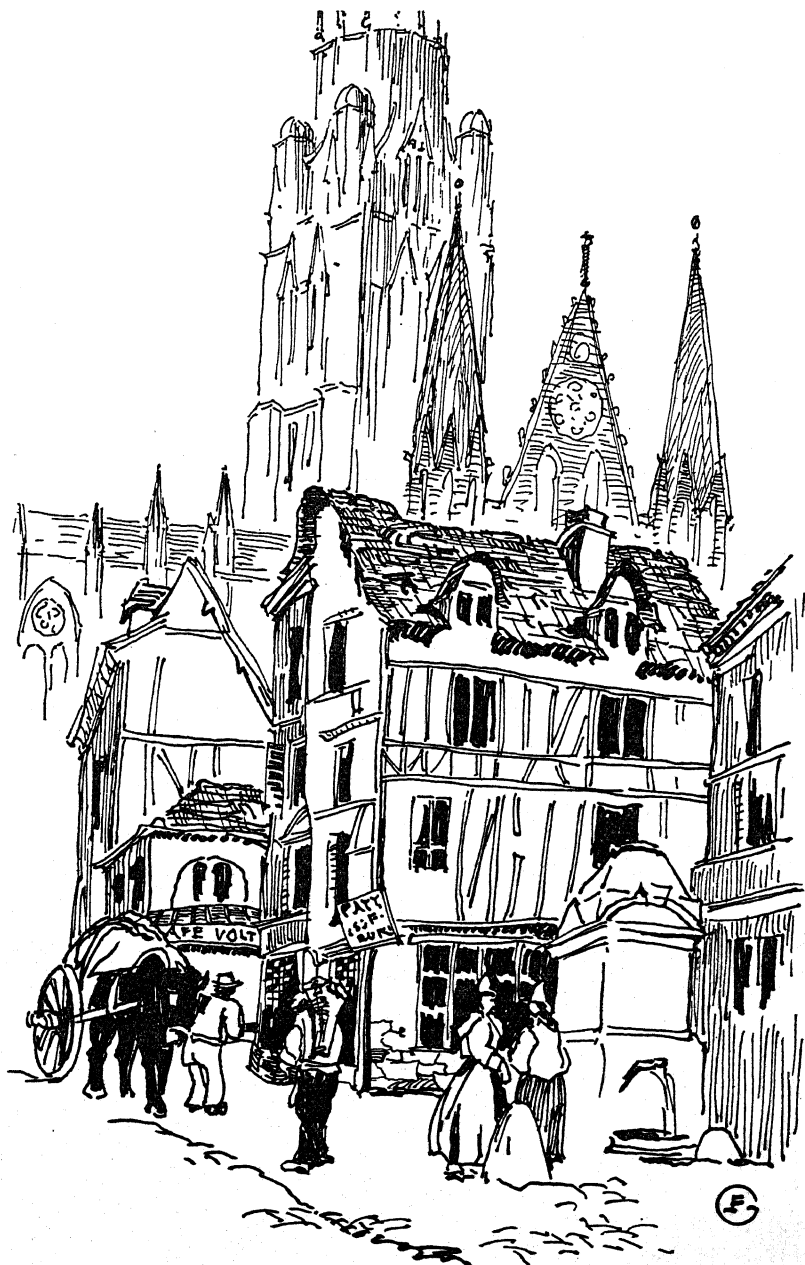


FIG. 70. MIDDLE-CLASS HOUSE, ROUEN, 17TH CENTURY

have already described. The fashion of projecting stories was carried to an absurd extreme and there is one house in York where the upper story projects fifteen feet beyond the foundation.

In 1619 during the reign of James I a building code, issued by the king, prohibited houses being built with overhanging stories, and directed that henceforth walls should be built straight from foundation to parapet, an enactment that modified town-house architecture as much as the zoning laws of New York City have affected the skyscraper. A further code in 1631 provided that full stories of houses should be at least ten feet high, that half stories should be at least seven and one-half feet high, and that windows should be higher than they were wide.

The Elizabethan era marks the last period of house development without the influence of the architect. Design in the Middle Ages was anonymous. There is only one mention of the word architect in all Shakespeare, and in Elizabethan contracts and documents the word appears seldom or never. Early in Elizabeth's reign a book by John Shute was published "The First and Chief Groundes of Architecture"; London 1563. This was dedicated to Elizabeth. But in the reign of James books on design began to appear in numbers and the publication of these books marks a change of which we shall have more to say in the next chapter.

CHAPTER XIV

English Homes. Seventeenth Century.

1628-1700

THE reign of James I in point of society and art belongs with the Elizabethan times. Politically and economically considered it held the beginnings of the American colonies and of the Civil War. During the reign of Charles I between 1630 and 1640 twenty thousand of the middle and upper classes left England for New England, the Puritan exodus as it is called, but many went also to Virginia. Besides registering political and religious protest this emigration testifies to a large surplus of discontented crowding population in town and countryside. Their household equipment¹ indicates the average way of life to which they were accustomed. For the reader of history the troubles of the Civil War and the Protectorate obscure the life of the masses of the English people. But these masses were there. The Poor Laws of Elizabeth, enforcing local² care of the very poor, ameliorated conditions and somewhat decreased crime. The sea-port towns were immensely busy and shipbuilding went on actively, while the production of wool was England's largest agricultural and industrial interest.

The city of London changed immensely in the seventeenth century. The stern repression of the Parliamentary and Puritanical period followed by the relaxation of morals during the Restoration affected manners and customs, especially in the capital. The Plague followed by the Great Fire of 1666 changed the whole face of the town. So large an amount of rebuilding as

¹ See Chapter XVI, pp. 272, 273, 285.

² Parish as always.

had then to be quickly done gave his opportunity to Sir Christopher Wren, but he was not the first great English architect.

We have already pointed out how in the reign of Elizabeth books began to be published praising the antique. This constant praise of classic formalism began to have its effect when

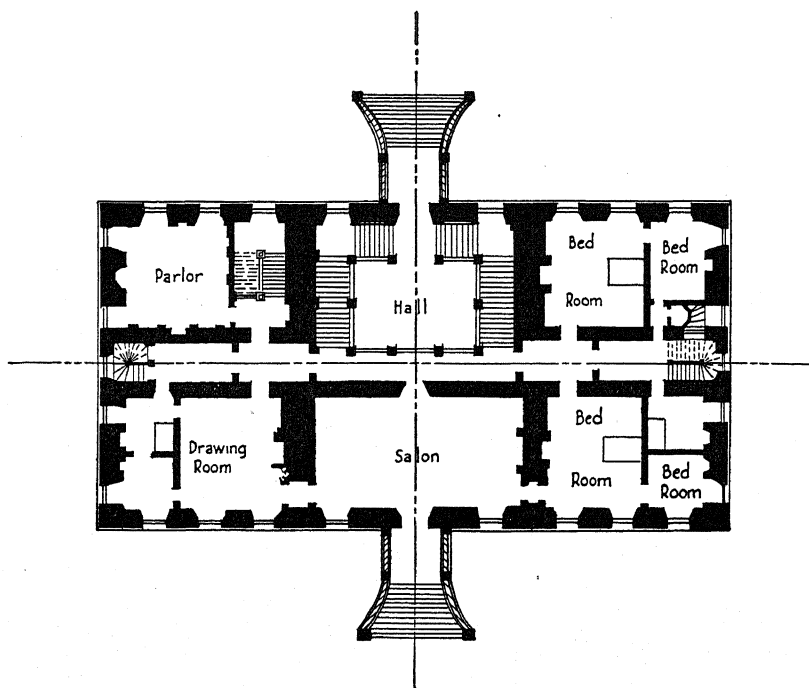


FIG. 71. PLAN, COLESHILL, BERKSHIRE (1650)
After Fletcher

Charles I came to the throne in 1625. Charles was a man of taste and a distinct leaning toward classicism. He could employ the brilliant Inigo Jones,³ who had studied in Rome and returned to England intent upon developing classic architecture as interpreted in Italy. Jones was not long in finding commissions, for the craze for formalism swept over the country. Changes of the new style were not calculated to make the house

³ 1573-1651.

more comfortable but to obtain a scenic effect. Balance and proportion were the all-important things. Some idea of the symmetry of the Jones plan may be obtained from the examples shown (Figs. 71, 73) on which the axes have been drawn. It will be noted that the plan was often not only symmetrical with respect to arrangement of the rooms about the hall but also with respect to the exterior — opposite elevations being quite similar.

Until the Restoration this movement had very little scope, but the essential rebuilding of London after the Great Fire,

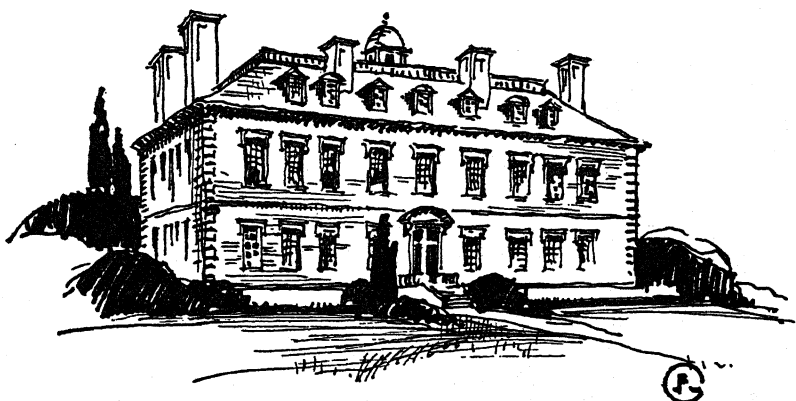


FIG. 72. COLESHILL, BERKSHIRE

under the direction of Christopher Wren, meant the replacement of a great many charming irregular old houses by the more formal mansions in the Italian style. The movement under Wren was only reasonably strong and, architecturally excellent, the houses were domestically good. Under Sir John Vanbrugh, however, symmetry was pushed to an insane extreme. If it proved necessary to balance a kitchen on one wing with a drawing room on the other the logic of fenestration necessary for each was entirely ignored. Such excesses did not go un-reproved. A malicious and witty commentator, a dabbler named Gerbier, who about 1624 wrote a book entitled "Of Counsel and Advice to All Builders," carps at those who have "marshal'd colombs . . . like things patcht or glewed against a wall and

for the most part the weight of the colombs should draw down the Wall on the heads of those that passe by." Chimneys according to Gerbier should be carried only two feet above the roof, the lofty stacks of the period being unsightly and dangerous. Stairs should have low risers and wide treads, a proportion of 4 inches and 18 inches, respectively, being about right.

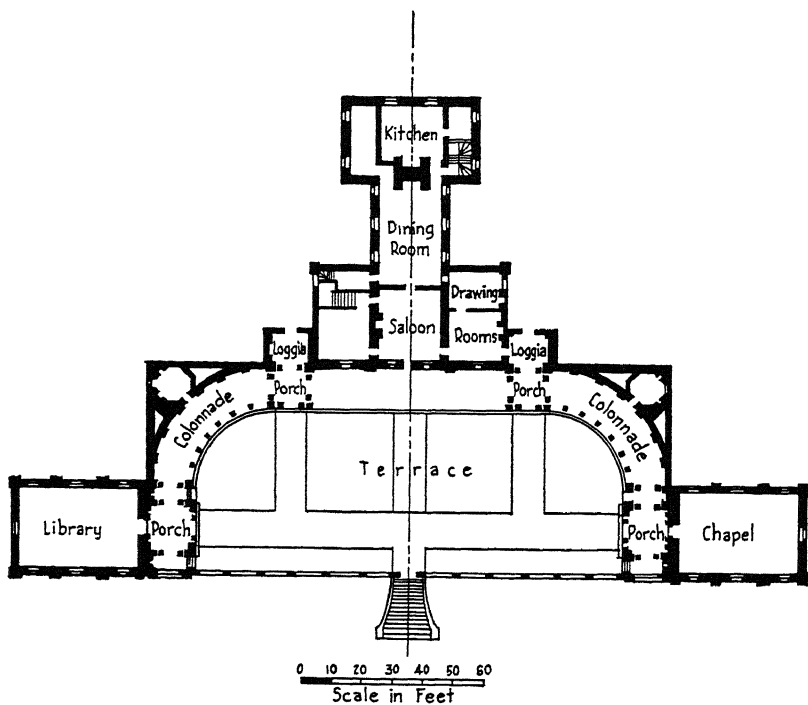


FIG. 73. PLAN, STOKE PARK, NORTHAMPTONSHIRE (1630-1636)

After Fletcher

He makes the point that the stairs should be wide enough to permit the attendants on either side of a noble person to ascend with their lord. Finally he advises people to consult an architect but not constantly to interfere with him.

Buckingham House is a good example of the change in conception. It is a central block containing principal rooms with a subsidiary block on the flanks connected by curved

colonnades. These were to contain the offices, kitchens, and library or chapel — one wing being important, the other not. The ridiculous lack of symmetry in purpose was covered by a symmetry in appearance. The rooms were wrongly placed, badly lighted, awkwardly shaped, given bad aspects. The distance between kitchen and dining hall was a nuisance; but con-

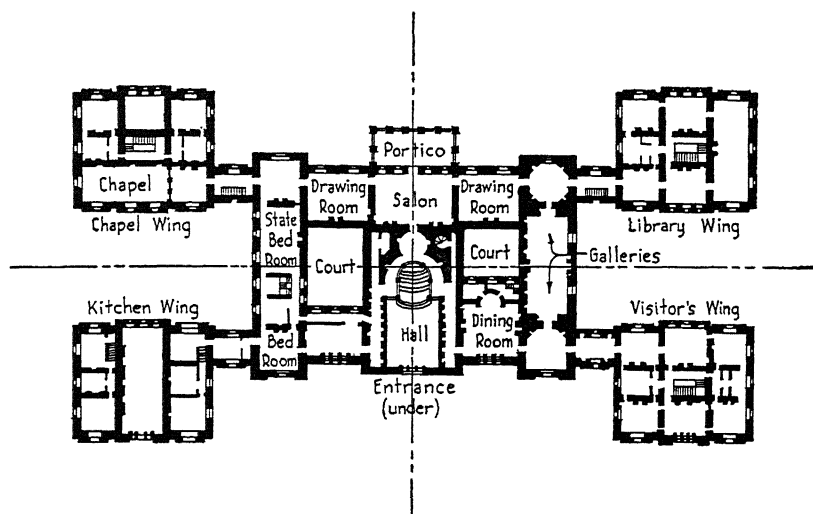


FIG. 74. PLAN, HOLKHAM HALL, NORFOLK (1734)

After Fletcher

venience counted for little so long as an imposing edifice was secured. Although somewhat later, Holkham Hall (Fig. 74) gives an idea of an excessive reliance upon the theory. The houses were a pattern of the fashion, not of the folk. Finally Sir John Vanbrugh designed and built Blenheim, whereupon Pope burst out with a "home truth":

" . . . 'Tis very fine
But when d'ye sleep and where d'ye dine?
I find by all you have been telling,
That 'tis a house, but not a dwelling."

Having duly condemned the excess of the Palladian in which this period was by no means unique, let us examine more minutely the changes effected in the Elizabethan home by this

new gospel. First as regards materials, the Great Fire of London served to lead away from stone and wood to brick. Other factors were the strong Dutch influence of William of Orange, the denuding of the forests to provide oak for the fleet, and the professional architect.

The first architectural changes were good. Jones was an artist and Wren an artistic scientist and both liked simplicity. They reduced the number of rooms but made them lofty and commodious. Stateliness replaced homelikeness. The detail was charming, if ornate.

As we have seen, the old idea of the great house was of a large hall for general living plus such groups of rooms as family convenience demanded. Relations between families and retainers were close and nobody minded their living together. Gradually the custom of dining together died out; the great hall was deserted as a living room and degenerated into a vestibule. Servants were relegated to the basement. All these social changes had obviously accompanied the architectural development; but when the classicists used the hall again to center their balanced plan it seems likely that, contrary to custom, art dictated habit.

Suddenly, from nobody seems to know where, there came a revolutionary thing, the sash window with cords and concealed weights. This at once threw casements out of favor and turned architecture in a new direction quite away from the Jacobean.

Most of the houses which we have used as illustrations were suburban or country palaces and yet this was essentially an urban age. Let us therefore look at a typical and fine London house of the period, 10 Neville's Court, Fetter Lane. This house is a wonderful example of the beauty of simplicity, honesty, and repose. It has plain brick walls with flat horizontal bands of projecting brick between the windows, all of excellent proportions and with a very simple, slightly classic, one-storied porch at the center. It contains parlors, bedrooms, studies, boudoirs, kitchens, sculleries, the bathroom being still unknown. The dining room was often used as a sitting room, and servants ate

downstairs. The floors were of uncarpeted oak, polished but not slippery; the ceilings of moulded plaster, whitewashed or picked out in one or two delicate colors.

From Pepys' diary much may be learned of the typical

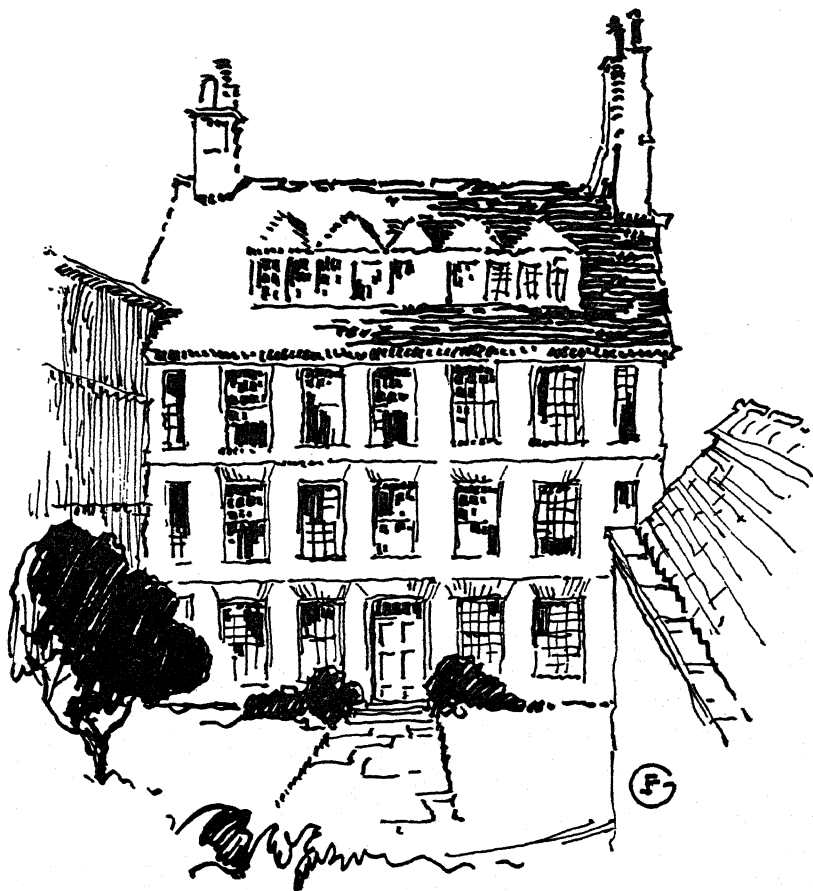


FIG. 75. 10 NEVILLE'S COURT, FETTER LANE, LONDON

citizens' house and ménage. Generally there were no drawing rooms. The lady's bedroom was also her reception room for visitors. The master had a room where he kept his accounts, wrote his letters or his diary, smoked and drank with his friends. Here he might have a Turkey rug on the floor, prints and

maps on the walls, a mat on the table, a writing table with a shut-up top. In a pewter mug on the chimney piece at least five feet above the floor were clay tobacco pipes belonging to his familiars. In the lady's room one found fine needlework hangings and cloths, a work table, a Bible box, a day bed with a cane back and bottom, and perhaps a harp.

The principal bedroom contained a highly ornamental four-poster with a needlework counterpane, a wardrobe, a mirror hanging on the wall, a washstand in the corner provided with a small basin sunk in a hole in the top, a shelf below for toilet articles and beneath all an ewer. Furniture was not upholstered but the bed had feather and flock mattresses, bolsters, blankets, and linen sheets. A widow was supposed to use black bed-linen in the early days of her bereavement. The maidservant often slept in a truckle bed in the masters' rooms, leaving early to dress in the scullery. Pepys recounts complications with two servants because of this custom, one servant wanting privacy and a second insisting on coming in because she was scared. The powder closet for the preparation of the wig was an important necessity.

Heating was not always certain, and the Pepys couple on more than one occasion had to stay somewhere else because they were out of coal. Cooking was still done at a high wide open fireplace where wood and coal were both burnt. Iron ranges came in after the Restoration, but the spit was still used and the dog machine had not yet been succeeded by a clockwork arrangement. In the country the dome-topped bread oven so familiar in our New England colonial houses was in common use. Most of the provisions were bought and carried home. The tradesman's round was not unknown but deliveries were most uncertain. Usually marketing was done by a confidential maidservant, but when guests were coming the wife often had to go to market even as early as five in the morning. Breakfast was a casual affair,⁴ although Pepys was always going out after rising

⁴ The absence of fresh air during sleeping undoubtedly made for a poor morning appetite.

to give somebody or other his morning draught, which was ale or ale warmed up with sugar and spice, wine, mum, or cider. Dinner was served between noon and three, and supper whenever one happened to go to bed. Bakers' shops were becoming common but bread was still generally made at home. Water was hawked about in barrels although a few people participated in the New River development, Pepys among them. The house had a service of water with taps in the kitchen and back yard. Butter was sparingly used except by the wealthy and fashionable. Jam was invented in the seventeenth century.

The diet was sufficiently elaborate. There were pasties, salmons, lobsters, bloaters, cod, stewed carp, rabbits, larks, brawn, tongues, pease porridge, umble pie,⁵ fruit tarts, mince pies, syllabubs, custard puddings, plum porridge at Christmas, conserves of all kinds, cabbages, lettuce, asparagus, artichokes, oysters, marrow bones, anchovies, prawns, toasted cheese, pickled samphire, apples, pears, plums, strawberries, cherries, with melons for the rich. The tax on raisins put these out of use.

In seventeenth century London there was, for the well-to-do, a great deal of gadding about, conversation, games, theater attendance, drinking. The gentlemen were often dissolute and spent a great deal of time in their taverns and their clubs. Drinking was very cheap, for there were signs on many bars — "Drunk for one penny," "Dead drunk for tuppence." Even Pepys often came home the worse for wear, as he frankly admits; but he also had many outings with his wife, indulging in a great bustle to get ready for a single day's fête champêtre. A good description of a typical round relates: ⁶

"We rise at nine, and those that frequent great men's levées found entertainment at them till eleven; or, as in Holland, go to tea tables. At about twelve the beau monde assembles in several coffee- or chocolate-houses, . . . and all these so near to one another that in less than an hour you see the company of them all.

⁵ Made of deer's entrails.

⁶ A contemporary picture (1722) from Compton-Rickett, A., "The London Life of Yesterday" (Constable and Company, Ltd., London, 1909), p. 289.

We are carried to these places in chairs,⁷ which are here very cheap, a guinea a week, or one shilling per hour, and your chairman serves you as a porter to run on errands. . . . If it is fine weather we take a turn in the park till two, when we go to dinner. . . . The general way here is to make a party at the Coffee-House to go to dine at the Tavern, where we sit till six, when we go to the play, unless you are invited to the table of some great man. After the play the best company generally go to 'Tom's' and 'Will's' Coffee-Houses near adjoining, where there is playing at picquet and the best of conversation till midnight."

"And so to bed," the progress home being slow and dangerous, what with footpads and the chance that the linkboys, too, were criminals.

Poor civic conditions, including very feeble means of dealing with a conflagration, were responsible for the extent of the Great Fire. The narrow streets, the overhanging roofs and projecting stories, were more to blame than the oak construction, for huge old oak rafters are almost non-combustible. The fire was finally quelled by pulling down and exploding houses in its path. As a matter of fact the disaster was highly beneficial for it cleared out the plague area of the year before, and this summary disposal of filth and the subsequent good effects showed even the public of that day the need of decent sanitation. From this period English people at least knew what should be done. The industrial slum that was to appear later was almost worse than anything medieval, because so unnecessary and so inconsistent with the science and technical advances of the Industrial Revolution.

⁷ Or by water, a favorite mode of conveyance with the added attraction that the boatman was frequently a raconteur or singer of sorts and one could indulge one's romantic notions by playing the flute while floating down the Thames.

CHAPTER XV

English Homes. The Industrial Revolution. 1700-1900

WHEN our study of homes arrives at the eighteenth century we find ourselves on familiar ground. Social and economic conditions of 1800 may not still persist but they are well known to us. The writings of Addison, Pope, Johnson, the political thought of the French and American Revolutions, the music of Handel, Haydn, and Mozart, are part of our mental life although the coffee houses, the crinoline, the harpsichord, and the *Ancien Régime* have passed. However, certain profound changes in the economic structure characterize what has been called the Industrial Revolution beginning in the eighteenth century and completely dominating the nineteenth. The tremendous effects of this revolution are in general in every mind but we must carefully consider the more gradual yet significant changes which it brought in the dwellings of the period.

Few, if any, of these changes, however, had affected the early eighteenth century home. As compared with the seventeenth century, better communication, comforts, and conveniences made it a more attractive place in which to live.

The excesses of the Palladian soon gave way to the quieter Georgian style, highly refined in the work of the brothers Adam. London became a city of quiet brick-fronted houses with small-paned windows, richly carved wooden doorways, iron street-lamp sockets, free from architectural sham or undue embellishment. The type of house will be perfectly familiar to those who

know any of the older eastern cities of the United States at all well.¹

Within doors symmetry still somewhat detracted from convenience but the smaller houses were on the whole more livable either because the owner could not afford an architect and built solely for his needs, or because he could not afford display. The taste of the time demanded, for a well-to-do merchant, a handsome-looking house with a suitable number of commodious high-ceilinged rooms done in the delicate manner of the brothers Adam, parquet floors, paneled walls, mahogany furniture. The rooms required were two to four sitting rooms, a hall with formal staircase, kitchen, back kitchen, pantries, bedrooms. This is the first century in which corridors appear as a matter of course in all domestic buildings. It was unnecessary to have fireplaces in every room so no complicated flue arrangements had to be worked out. A house usually had two or three chimney stacks and the rooms abutting them might have fireplaces, the others not. The crude means of sewage disposal still prevented the placing of sanitary conveniences within the house even to the degree found in a castle of the Middle Ages, where fortification made some such provision essential. Fireplaces were modified, by the popularity of sea-coal and later canal-coal, into the rather small coal-burning fireplaces of modern England with their iron grates.

The eighteenth century is interesting from the point of view of modern interior decoration in that it witnessed the introduction from France of fancy wallpapers replacing rough plaster and paneling. The elaborate designs could be changed frequently and they were soon widely used. In some houses as many as twenty layers of paper have been found, one over the other. The designs ran all the way from baroque and hunting scenes to Chinese, which at one time were in great demand.²

¹ The beauty of the Bath crescents and of Regent Street, London, before the remodeling, and of old Beacon Hill, Boston, is proverbial.

² An advertisement from the *Postman* of December 1702:

"At the Blue Paper Warehouse in Aldermanbury (and nowhere else) in London are sold the true sort of figur'd Paper Hangings, some in pieces of

Meanwhile we find the houses in the country growing larger, as befitted the families of gentleman farmers, retaining, however, their symmetrical form. Thus there was no back, or baser approach, for the use of servants and tradesmen but every side was intended to be equally presentable. The servants did live in outlying sections of the house but could not reach their bed-

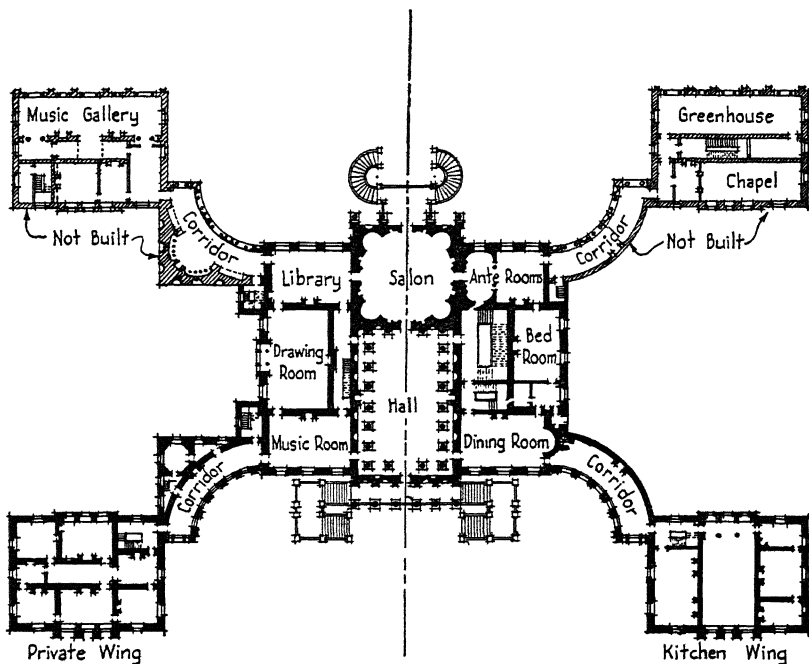


FIG. 76. PLAN, KEDLESTON HALL, DERBYSHIRE (1761-65)

After Fletcher

rooms without going through some of the main rooms. So insistent was the demand for symmetry that in many instances we find duplicate stairs where one would have sufficed. Such a house is Kedleston Hall (Fig. 76).

12 yards long, others after the manner of real tapestry, others in imitation of Irish Stitch, flower'd Damasks, Sprigs, and Branches; others yard wide in imitation of Marble and other coloured Wainscoats; others in yard wide Emboss's work, and a curious sort of Flock work in imitation of Caffaws, and other hangings of curious figures and colors." From Helm, "Homes of The Past," p. 109.

In the eighteenth century we mark improvements in lighting and heating. A Frenchman experimenting with a glass tube over a lamp flame found he could regulate the supply of air to obtain a smokeless flame and this was the beginning of the kerosene lamp, which completely changed house lighting. Ventilation was given much attention. Christopher Wren had worked very hard on the problem in the Houses of Parliament without much success. Dr. Desaguliers, called in, built a fireplace in the room overhead and made Wren's ventilating flues supply the air for the fire. Unfortunately malicious interference with its operation spoiled the experiment with this first thermal ventilator. In 1750 a serious plague at Old Bailey and in overcrowded vessels at sea set Mr. Howard thinking, and for the army barracks he had openings made near the ceiling and developed the window sash on pivots.

The Franklin stove was invented in 1742 but it was not very popular in England and heating continued to be by fireplace. However, there were many efforts at improving the heating such as the Flemish³ and Bath fireplaces. The efficiency of the latter may be judged by the following quotation:

"If the English apparatus was not invented by some sufferer in the smoke endemic, that in certain winds drew tears from the stoutest eye in Bath, it was a favourite remedy with the local doctors; and continued for a long series of years to be considered, throughout the western districts, not only the best, but the only, cure for an incorrigible chimney; and it must be admitted that in numerous, apparently hopeless, cases, the Bath fireplace did its business effectually; and where the flue was of a good height, it did wonders: the draught carried everything triumphantly before it; not only the smoke, but all the air in the room, whisked up the chimney with the velocity of a hurricane, followed by all the comfort at a speed as rapid."⁴

³ This was a sort of mongrel fireplace used in Flanders to warm cabinets and libraries and praised for saving fuel and freedom from gas.

⁴ Bernan, Walter, "On the History and Art of Warming and Ventilating Rooms and Buildings, etc." (George Bell and Sons, Ltd., London, 1845), Vol. II, p. 23.

The Science of the Restoration, a gentlemanly interest in experimentation, such as the Royal Society, founded by Charles II, promoted, began to get down to work on these and other inventions, and by the year 1800 Science as we conceive it had taken control of the material progress of society.

Definition and detailed analysis of the Industrial Revolution, fascinating as the subject is, fall but incidentally within the scope of this history. Perhaps a simple statement in terms human rather than scientific will serve our purpose in making clear the causes and effects. Its significance will best be appreciated if we remember the deep controlling principle of the division of labor, the integration of work, which is omnipresent, directing increased knowledge and improved technique, and resulting in increased satisfaction of human needs and amplification of human wants. For the first time in any extensive way the relatively great advances in scientific knowledge⁵ were applied to the improvement of the technique of groups as against individuals, to the specialization of functions, and to the beginning of modern mass-productive means.

The Revolution was not confined to trade but affected practically all broad social phases and certainly commerce, manufacturing, transportation, agriculture, and so on through all the arts and sciences.

Already in the early part of the period and without the influence of mechanical power the factory system had been started by the working of the "mercantile system" — a term used to describe the merchandizing system developed by wealthy merchants who controlled many cottage weavers and spinners and bought and sold their product and distributed wool. Originally the making was done under the "domestic system," under which the making of yarn and cloth was done in the home, a cottage workshop where a weaver and his family with loom, hand cards, spinning wheels, water and dye tubs turned raw yarn into cloth. Gradually the cottage workshop was changed for the small shop or mill, beginning with the fulling and teasing

⁵ Beginning in the cultural period of the previous century.

operations and later extending to weaving and even to spinning. The finished goods the merchant sold in a constantly broadening market. He was a land owner and pieced out a living with some farming.

The drawbacks of "domestic" and "mercantile" systems were exactly those of the later sweatshops: insufficient wages, excessive hours, unhealthy working places, and child labor.

The changes that came, and they affected all industries, were in transport, in agriculture, and in manufacturing. Transportation of goods had been by pack horses, over miry, dangerous, difficult roads, too bad for carts to be much used. The Worsley canal (1761), which brought coal to Manchester at half the previous price, marks the beginning of the change in transport, for the canal system developed rapidly in the next thirty years.

In agriculture the manorial system with its semi-communal plan of tillage and pasture rights was modified and almost done away with by a succession of enclosure acts that began in Tudor times. In the reign of William and Mary the Jacobite nobles, unwelcome at court, withdrew to their estates and began to superintend their farming.⁶ More enclosures of good fields pushed the yeoman away to poorer pieces. A large number of the rural population began to drift and presently were sucked into the new factories and industrial centers.

More sensational changes in technique were introduced by steam power, by mechanical inventions, and by industrial chemistry. In the textile industry alone we may mention Kay's fly shuttle (1733), Hargreaves' spinning jenny (1769), Arkwright's water frame (1770), Crompton's mule (1772), and Cartwright's power loom (1792), a list that epitomizes the shift from cottage to factory system.

Machinery could not have been developed as it was without the coking process which advanced England's iron production to the leading place in the world. In 1779 the first iron bridge was built across the Severn, in 1781 Wilkinson built a small

⁶ Lord Townshend, for example, in 1730 raised turnips for a profit.

steel ship for canal use, in 1788 he made forty miles of cast iron pipe for the water supply of Paris.

The new power of steam enabled factories to be placed anywhere and immensely expanded their capacity. Watts' steam engine is usually dated 1768, and from then on the Industrial Revolution accelerated its progress.

The cottage of the industrial worker, weaver, tanner, miller, who plied his trade singly in 1700, was to all intents and purposes like the cottage of a farmer or ploughman. His days were equally toilsome and much more monotonous. His children were utilized for the work they could do, like the farmer's. But when transportation brought large amounts of raw material to remote places, when machinery was set up in the premises of progressive "masters," then the subdivision of labor took real hold on men's lives. General skill became specialized, unskilled labor found its own levels, and folk were harnessed into a factory system of hours, wages, and special tasks, that for the time being subordinated human values to economics. Whether life was much worse than before may be disputed. Undoubtedly it was altogether different.

The present-day effects of the Revolution may be summed up as follows:

In material matters we enjoy rapid and far transportation by steamships, railroads, motor cars, and airplanes; free communication by the press, by the postal system, telegraph, telephone, and radio; immense accomplishment of every sort of work by steam and electric power, a wealth of goods through mass production and distribution, and for every article the desired material is used although it originate at the ends of the earth.

In social matters the Industrial Revolution made the merely rich man more powerful in proportion to his wealth and yet has given the laboring man a new independence, and labor a corporate power hitherto unknown. City life as it now is, whether in the megalopolis of 5,000,000 or the smaller industrial city, depends on mass production and modern transportation. Na-

tional life, world trade and finance, international wars and international peace depend on modern communication, technology, commerce.

One more significant social phenomenon of our day resulting from the Industrial Revolution is the joint stock ownership of industries and of many public services. It is the integration of productive forces, a big step in the direction of the socialization of industry.

The nineteenth century in England can be dealt with briefly. It was the period in which the fruits of the Industrial Revolution began to be gathered. Physical conveniences, comforts, and luxuries of the nineteenth century home increased suddenly in number and complexity. As compared with the Georgian mansion with its austere elegance of paneling and simple furniture, the Victorian residence was crowded full of the products of the factories. Metal work, from chandeliers to fine cutlery and Sheffield plate, glass in bay windows and conservatories and mirrors and framed pictures, textiles in heavily upholstered furniture, curtains lined and fringed, vast stores of bedding and table linen, these show what mass production did to home life. Then there was china, elaborately made and decorated, for the bedroom as well as table services. For all these possessions and for the storage of clothing, cupboards and closets and pantries were developed in houses; and servants' work and working quarters became highly specialized.

In the United States the developments in heating and lighting were on a vastly larger scale and at a quicker tempo than in England and the discussion which we shall give to them in the chapter on the nineteenth century in the United States will indicate what was happening in England.

But the nineteenth century in England did witness in very acute form a development which probably was an inevitable result of the Industrial Revolution. The factory system immediately worked a change for the worse in the home life of the poor; the factory brought the slum. "If we placed side by side the domed hut of an ancient Briton, the wattle and mud hut of a

medieval cottar, and the dwelling of a factory worker in the early days of mechanical production, there would be but little to choose between them. The factory worker's home had this terrible disadvantage: it was fixed for all time, rooted in some drab street, incapable of expansion, liable to the utmost horrors of over-crowding from which there was no hope of relief. The pre-Roman British village could grow within certain limits; expansion was allowed for; and this was true of the medieval village; but the first industrial towns were erected by land-greedy people, whose passion for saving space was matched only by their inhumanity." ⁷ The early rich industrialists had no idea of distributing their wealth in any way for the benefit of their workmen. They were mostly exploiters pure and simple. All of the records indicate that conditions of labor in the early factories were unquestionably bad. The factory slum growing up around the new factory in some unspoiled countryside was a blot upon the scenery.

There has been a great deal written on the subject and we give two or three quotations as illustrative of the condition of the poor in England in the mid-nineteenth century.

"It was a town of red brick, or of brick that would have been red if the smoke and ashes had allowed it; but as matters stood it was a town of unnatural red and black, like the painted face of a savage. It was a town of machinery and tall chimneys, out of which interminable serpents of smoke trailed themselves forever and ever, and never got uncoiled. It had a black canal in it, and a river that ran purple with ill-smelling dye, and vast piles of building full of windows where there was a rattling and a trembling all day long, and where the piston of the steam-engine worked monotonously up and down, like the head of an elephant in a state of melancholy madness. It contained several large streets all very like one another, and many small streets still more like one another, inhabited by people equally like one another, who all went in and

⁷ Gloag and Walker, "Home Life in History," p. 250. It is hardly necessary to elaborate on the conditions of the early factory workers. But it is also doubtful if their conditions of life were a bit worse or indeed as bad as those in the ghettos of the Middle Ages.

out at the same hours, with the same sound upon the same pavements, to do the same work, and to whom every day was the same as yesterday and to-morrow, and every year the counterpart of the last and the next.”⁸

The period was unquestionably one of unmitigated selfishness and conditions got worse and worse in the big centers and the factory towns. Here for example is a St. Pancras slum in London, 1860, as described by George Godwin:⁹

“In a dilapidated house, thickly inhabited, and for which the inhabitants pay about £27 a year, the back yard was disgraceful; a cesspool was overflowing and spreading over the ground, and deep pools of stagnant and poisonous matter filled the cracks of the pavement. No description can give an idea of this place. There was no water last Sunday, ‘not a drop of water in the next yard, nor in the next and the next.’ There are cesspools open or closed below and adjoining houses. One or two streets have lately had drains made through them: in the large remainder all lies on the surface—heaps of the refuse of piggeries, cowsheds, and stables, vegetables, fish, &c—with bad pavement, great poverty, and for nearly two days in the week no water! Even the dumb animals—horses, cows, pigs, and asses—must also be equally ill provided with this necessary. Such are the notes of a neighbourhood, which we venture to say is not much exceeded in ill condition amongst savages, and is certainly disgraceful to the Parish of St. Pancras.

“This ‘Paradise,’ and parts adjoining, are positively worse now than at the time of our first visit six or seven months ago. Let none regard our description as overcoloured. So far from this being the case, the abominations are under-rated, and this we will prove by a few categorical statements. We will commence with Pancras Place, Pancras Road. There are sixteen consecutive houses in this row in a most filthy and dilapidated state, as they have been for years. A person residing opposite to them informs us they have not been painted for thirty years; others say they cannot remember them undergoing repair. Apparently, if one were taken down, they would all fall; in fact, they are not fit for human habitation. The

⁸ Dickens, Charles, “Hard Times,” Ch. V. The village is “Coketown.”

⁹ Quoted by Aldridge, “National Housing Manual,” p. 97.

cesspools are in a most offensive state, being only partly covered, so that the contents often rise over the boards which form the flooring. The stench is, as the occupiers observe, 'horrible.' These houses are mostly let to five or more families, each family occupying a room, for which they pay respectively from the kitchen upwards, 3s., 2s.9d., 1s.6d., and 1s. per week, or at the rate of £29 5s. per annum, for places not fit for pigs to dwell in!"

And once again a slum in Leeds as described by Dr. Clifford Allbutt, 1865:¹⁰

"This is no description of a plague-stricken town in the fifteenth century; it is a faint effort to describe the squalor, the deadliness, and the decay of a mass of huts which lies in the town of Leeds, between York Street on the one side and Marsh Lane on the other; a place of 'darkness and cruel habitations,' which is within a stone's throw of our parish church, and where the fever is bred. These dwellings seem for the most part to belong to landlords who take no interest whatever in their well-being. One block perhaps has fallen years ago by inheritance to a gentleman in Lancashire, Devonshire, or anywhere; another to an old lady; a third, perhaps, to an obscure money-lender. Meanwhile the rotten doors are falling from the hinges, the plaster drops from the walls, the window-frames are stuffed with greasy paper or old rags, damp and dung together fester in the doorways, and a cloud of bitterness hangs over all. To one set of houses, appropriately named Golden Square, there is no admission save by alleys or tunnels, which are only fit to lead to dungeons; so that for perhaps half a century or more the winds of heaven have never blown within its courts."

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"If anyone is attracted upon the threshold of Harper Street, let me be his guide a little further. Harper Street is freshness itself compared with the courts where the thick air is bound in stagnation by a cluster of mouldering walls. Such is Feetham's Fold, and many of Feetham's flock have found their way to the Fever Hospital. The street passing by it is also ill-drained, but less deadly, as the air has freer course up and down. By the way, the

¹⁰ Quoted by Aldridge, "National Housing Manual," p. 95.

schoolmaster being abroad in Feetham's Fold, an enterprising man has at last begun to open out the gully-hole, down which I am assured, and well believe, that for four months nothing had passed. Heaped up about me were masses of horribly fetid mud and ordure — the most innocent cause and consequence of this slight obstruction. Next let him take any yard about Off Street, York Street; say Dunn's Yard, Off Yard, Philips's Yard, or Riley's Yard. Riley's Yard is horribly filthy, but enjoys a fair draught; if he will look into any of the others he will see the places which fill the Fever Hospital, and he will gain his knowledge at the price of a nausea and an oppression at the epigastrium which will not leave him for hours."

These quotations not only show how evil the conditions were in the last half of the century but also that people were becoming indignant about them. From indignation to action is only a step. Since the middle of the last century England has worked actively at slum clearance. The movement was accelerating up to the World War, which temporarily put a stop to it and caused a tremendous housing shortage. Economic circumstances since the War have worked rather unhappily for English housing and the physical requirements have gradually been satisfied only at a severe economic loss.¹¹

We must not allow the grim cloud overhanging workers' houses of the time to obscure for us the fact that the net result as regards comfort, convenience, and health, for the entire population was good. The homes of the middle and wealthy classes were gradually made more comfortable and more fully supplied with the new conveniences of the enlarging mass production. The very fact that workers did live in such squalor served more forcefully to call to the attention of the upper classes the inequitable social arrangement, and undoubtedly helped to lead to an expanding social consciousness. These developments occurred along somewhat parallel lines in America and in England. The American changes took place more rapidly

¹¹ The economic facts of English housing since the War will be found in Volume II.

than those in England and probably afford a clearer picture of their nature. Hence we may now profitably leave the study of English homes and turn to our own land, beginning in the Massachusetts Bay Colony at the time of the landing of the Pilgrims.

CHAPTER XVI

American Homes. The Colonial Period

WHEN we come to deal with homes in America and particularly the homes of the early colonists we shall find it necessary, because of space limitations, to confine ourselves chiefly to the colonies of the English-speaking peoples in the United States of America. The colonists who came to these shores were very diverse as to religion and occupation. They had a common background in their native lands but their reasons for coming and the climatic conditions of the regions in which they settled, together with their local organizations of society, necessarily resulted in a great number of minor differences between homes, say, of Massachusetts and of Virginia. Still these differences were essentially minor and the broad trend of colonial housing was sufficiently similar in all of the colonies to warrant its consideration as a whole.

Everywhere the English colonists came at once into contact with the Indians. These Indians were for the most part amicable and there was very little trouble until the acquisitive instincts of the settlers, together with the attitude that savages existed for the purpose of exploitation, led to ill will on the part of the Indians. Therefore Mark Twain's statement that when the Pilgrims arrived they fell first upon their knees and then upon the aborigines is only partially true. The lodges in which the Indians dwelt were entirely unsuitable as models for the settlers' homes and although the colonists did learn some things about native food from the original inhabitants they owed to the Indians nothing whatever in the way of building.

When the early settlers arrived in the spring, they were principally concerned with agriculture as a means of providing food for the coming winter. Consequently they had little or no time to devote to a shelter and they presumably built for the first winter the type of dwelling that was common among the poorest peasants at home, huts of staves and saplings with the spaces filled in with wattles and the whole daubed with clay. Edward Johnson in his "Wonder Working Providence" has portrayed his personal experiences in such settlements:

"After they have found out a place of abroad, they burrow themselves in the earth for their first shelter, under some hill side, casting the earth aloft upon timber; they make a smoaky fire against the earth at the highest side, and thus these poor servants of Christ provide shelter for themselves, their wives and little ones, keeping off the short showers from their lodgings, but the long rains penetrate through to their grate disturbance in the night season, yet in these poor wigwams they sing Psalms, pray, and praise their God, till they can provide them homes, which ordinarily was not wont to be with many till the Earth, by the Lord's blessing, brought forth bread to feed them, their wives and little ones."

These caves were by no means exclusive to New England. They were common, for example, along the Delaware. Thus we find William and Elizabeth Hard arriving in Philadelphia. Elizabeth's sister is already living there in a cave. Then Elizabeth and her husband set to work to build their dwelling. In the words of her niece, Deborah Morris,

"All that came wanted a Dwelling and hastened to provide one. As they lovingly helped each other, the Women even set themselves to work that they had not been used to before; for few of the first settlers were of the Laborous Class, and help of that source was scarce. My good Aunt thought it expedient to help her Husband at the end of the saw, and to fetch all such Water to make such kind of Mortar, as they then had to build their chimney. At one time being over-wearied therewith, her Husband desired her to forbear, saying, 'thou had better, my dear, think of dinner'; on which, poor woman, she walked away, weeping as she went, reflect-

ing on herself for coming here, to be exposed to such hardships, and then knew not where to get a dinner, for their Provision was all spent, except a small quantity of Biscuit and Cheese”¹

These buildings were probably even of poorer quality than those of the peasants at home. A skilled woodsman can, of course, knock up a very respectable camp in a few hours; but the early settlers were weavers, tailors, blacksmiths, coopers, brickmakers, farmers, soldiers, and a few gentlemen — in short, anything but experienced woodsmen or, indeed, experienced builders.

As soon as the colonists had had an opportunity to get settled a little they embarked on construction characteristic of their native land and of the community in which they now found themselves. As a matter of fact climatic conditions affected the type of home developed in the new land more than did past experience. Old memories were, to be sure, constantly refreshed by new companies of colonists. None the less most of the colonial buildings erected in America were quite unlike those of the parent country. Besides different climatic environment, this difference undoubtedly was due in part also to the character of the material readily available in the New World and to the scarcity of skilled mechanics.

Although there were a few obvious differences between the houses of the colonies into which the three main streams of population flowed, New England, New Holland, and Virginia, fundamentally the homes of the early settlers were much alike. Let us consider, therefore, as our principal example of the housing of the early colonial period the home of New England, and then at a glance note what differences existed in the Dutch and Virginian developments.

Early uncomfortable housing conditions in New England were not greatly ameliorated in the first decade. The houses were cold, and drafty, furnished with some home-made furniture

¹ Wharton, Anne Hollingsworth, “Colonial Days and Dames” (J. B. Lippincott Co., Philadelphia, 1895), p. 68.

and a few pieces which the colonists had been able to bring from their native land.

A pamphlet of advice and instructions given by the Governor of the Massachusetts Bay Colony, dated Charlestown, July 24, 1630, to those writing friends in Old England who were contemplating the voyage to New England, says:

"Thou must be sure to bringe no more companye than so many as shall have full provision for a yeare & halfe, for though the earth heere be very fertile, yet there must be tyme & meanes to rayse it. Remember to come well furnished with linnen, woollens, beddinge, brasse, peuter, leather bottells, drinkeinge hornes &c; axes of severall sorts of the Braintree smythe or some other prime workman, & some augurs greate & smale, & many other necessaryes which I cant now thinke of, as candles, sope, & store of beife suett, &c, & sugar, figs, & pepper, & good store of saltpetre, and conserve of red roses, & mithridate, good store of pitch, & ordinary suett & tallow; shoemaker's thread & hobnails; chalk & chalkline; & some birdlime." ²

There are still extant a few specimens of the colonial block house, not log structure as we know it now, but built of huge squared logs laid horizontally, their weight alone keeping them in place. One such in Dover, New Hampshire, has tiny square casement windows and a slight second-story overhang. It recalls English cottages in general effect.

Fifty years after the first settlements a style of house had developed which was wholly American. The chimney was the dominant factor. New England has a rigorous winter and it was to be expected that the fundamental center of the house should be, even more than in England, the hearth. No one who has ever seen an old colonial fireplace can have failed to be struck by its magnitude and strength and by the impression that it was the focus of domestic activity. Thus the houses were planned around the chimneys; and, since it was desirable so far as possible for

² Massachusetts *Daily Intelligencer*, reprinted by Boston *Evening Transcript* in its issue of July 24, 1930.

every room to have a fire, we find one central chimney or two large chimneys, one at each end of the building.

There are about four variations of this plan possible and these are shown in diagrammatic form in Fig. 77. The four plans illustrate in order the development of the colonial house from the simplest to the most elaborate type.

Plan A shows a very common New England arrangement in which the rooms are grouped about a central chimney and there is a very small stair hall in the front. The partition between the storeroom and kitchen may not have existed in every case and if not the kitchen would be a large heated room; but in general the storeroom would be unheated, as well as the upper rooms.

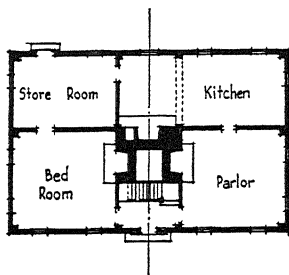
Plan B shows the arrangement in Virginia or wherever there was a little more wealth, with two chimneys, one at each end of the house, each serving to heat a room and possibly also to provide fireplaces upstairs. This house has the through central hall quite characteristic of both North and South, and the symmetrical porches shown would be common only in the more elaborate type of building. The plan may commonly be found without these porches.

Plan C, also common in both North and South, shows the two chimneys brought in from the end walls and each warming two rooms. Here again there is an elaborate stair hall running through the house.

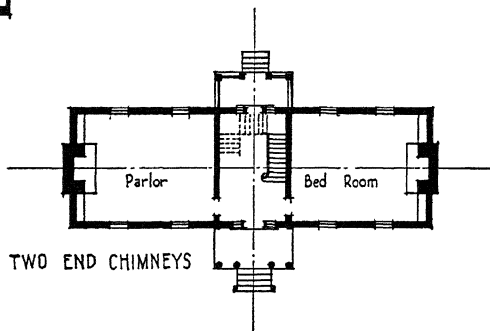
Plan D is a more costly construction, with a fireplace in each room and therefore two pairs of chimneys at the end walls.

Weather was so severe that every house had to have a central³ entrance hall. A modern American possibly can afford to lose a little heat every time the door is opened but the colonist could not. This entrance hall usually contained the stair and on either side of the hall were two rooms for downstairs purposes. Orientation was very carefully considered. The kitchen, in which a fire was always burning, could be at the north side; but the living room, having a fire only in the evening, was given a

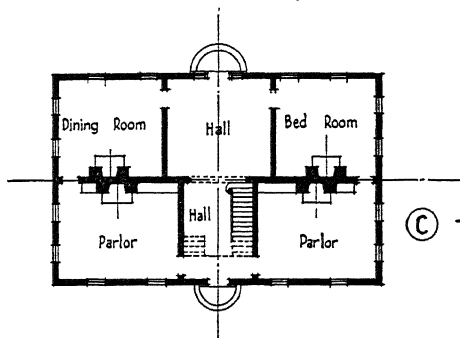
³ Occasionally there are examples where the entrance is at one side but they probably were planned for an addition which was never built.



(A) LARGE CENTER CHIMNEY



(B) TWO END CHIMNEYS



(C) TWO INTERIOR CHIMNEYS

(D) FOUR END CHIMNEYS

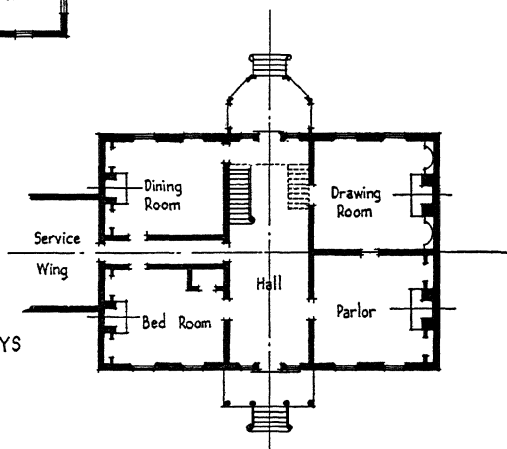


FIG. 77. CHARACTERISTIC HOUSE PLANS OF AMERICAN COLONIES BASED ON CHIMNEY ARRANGEMENTS

southwest exposure. In Connecticut a special type of plan was developed with a small entrance hall 4 feet by 6 feet. The stair was crowded into the narrowest possible space against the central chimney, and there were rooms to right and left of the entrance hall with possibly one or two other rooms in the rear.

Naturally the construction was principally of wood, the most plentiful building material in the colonies. There were no mills for the manufacture of lumber⁴ and all boards were sawed by two men, one working in a saw pit; every joist was hewn four-square with an axe; every nail, bolt, hinge, and lock hammered out individually. The rapid deforestation is shown by laws passed by various communities restricting the sale of timber. In 1634 Cambridge prohibited the sale of boards, clapboards, or frames for houses out of town; and in 1637 Salem found that such transportation "hath not only bared our woods but bereaved our inhabitants."

It is a moot point today whether the houses of the colonists were ever like their contemporary Elizabethan counterparts of half timber with the ribs exposed and filled with lath and plaster. Probably they were, but the rigors of the first winter called for the heavy siding that was added. These houses stood broadside to the road with gables at their ends. The gable roof was steep and pointed and the eaves low. The windows were very small with hinged or casement sash filled with leaded glass. Sometimes the casement sash was filled with oiled paper or parchment, and colonists were advised to bring such materials for their windows. Bricks were made in the Colonies from a very early date, but chimneys at first were of wood covered with clay. Another detail which seems to have been brought to the American house from England was the overhang. A great many old New England houses have a second-story overhang which could have served no real purpose and is pretty clearly a survival from the English building.⁵

⁴ First sawmill permit, 1649.

⁵ Some people like to explain the overhang on the basis of its being a defense against the Indians but since it usually occurs only on one wall, at the front, this seems ridiculous.

It will be well to describe the method of building one of these early houses, many of which are still standing and are altogether admirable for construction and architecture. Immediately on the foundation around the entire house sills were placed. Into these the posts, studs, and braces were tenoned. Large square posts were set at the corners of the building or of the room or

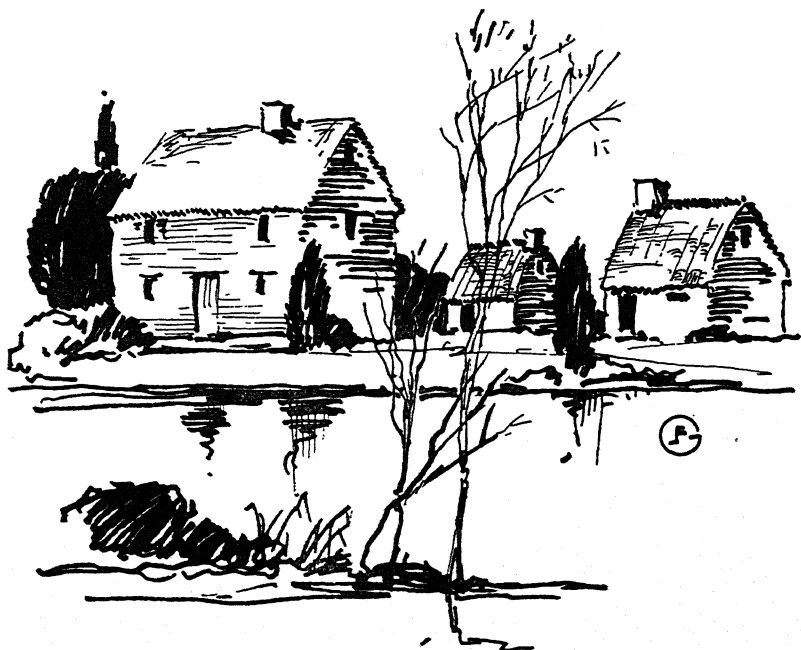


FIG. 78. OLD SALEM HOUSES, EARLY 17TH CENTURY

even intermediate in large rooms to carry the summer beams or the girts. The girts were five in a two-story house, front, back, two ends, and chimney. Front and rear girts were notched into the posts just under the second floor, the end and chimney girts entering the posts at a slightly different level to preserve the net section. If a second story was built, posts on the second story were then notched into the girt and carried up to the plate which, supporting the rafters, corresponded to the girt at the second floor. The summer beam was a large beam running

across the rooms parallel to the chimney face in Massachusetts and to the front girt in Connecticut. In Massachusetts a summer beam on the second story was placed at right angles to the one on the first, introducing a species of bracing. Into the summer beam and corresponding to the girts were placed joists 3 inches by 5 inches spaced 20 inches on centers. Rafters were a good deal like modern rafters except that the general colonial tendency was to make the larger dimension of the bending member horizontal rather than vertical and rafters were not framed into the ridge but merely butted and pinned. Studs were small vertical pieces tenoned into the sill and the girt and also appearing in the end gables. It is probable, as we have said, that in the early days clay was filled in between the studs but that the colonists soon found it insufficient to keep out the cold and added the wide clapboards characteristic of the style.⁶ In all early houses the posts extended into the room at the four corners and the sill into the room at the floor level, thus preventing the placing of furniture close to the walls. Windows were usually smaller in relation to wall space than today and dormers were comparatively unknown. The cornice was practically nil, the rafter ends being left exposed. Throughout, the framing was wonderfully well and carefully done, although the majority of the colonists were by no means skilled artisans.

The first Gallup house, owned by John Gallup of Connecticut, built in 1643, has been described for us at some length. Besides the other features noted above, it had heavy wooden shutters inside and out for heat insulation and for barricading against savage attack. Before the wainscoting was added, skins were frequently hung on the walls as insulation. Captain Gallup was 6 feet 4 inches tall, so his story heights were slightly greater than in most houses of the Colonies and it is related that he had to stoop to enter any doorway save his own. He had a third story in the form of a big garret where weaving was done with closets at each end for the looms. He had deep cellars for the

⁶ The name clapboard is probably a corruption of "clayboard" indicating a board which either served as a lath or was applied over the clay filling.

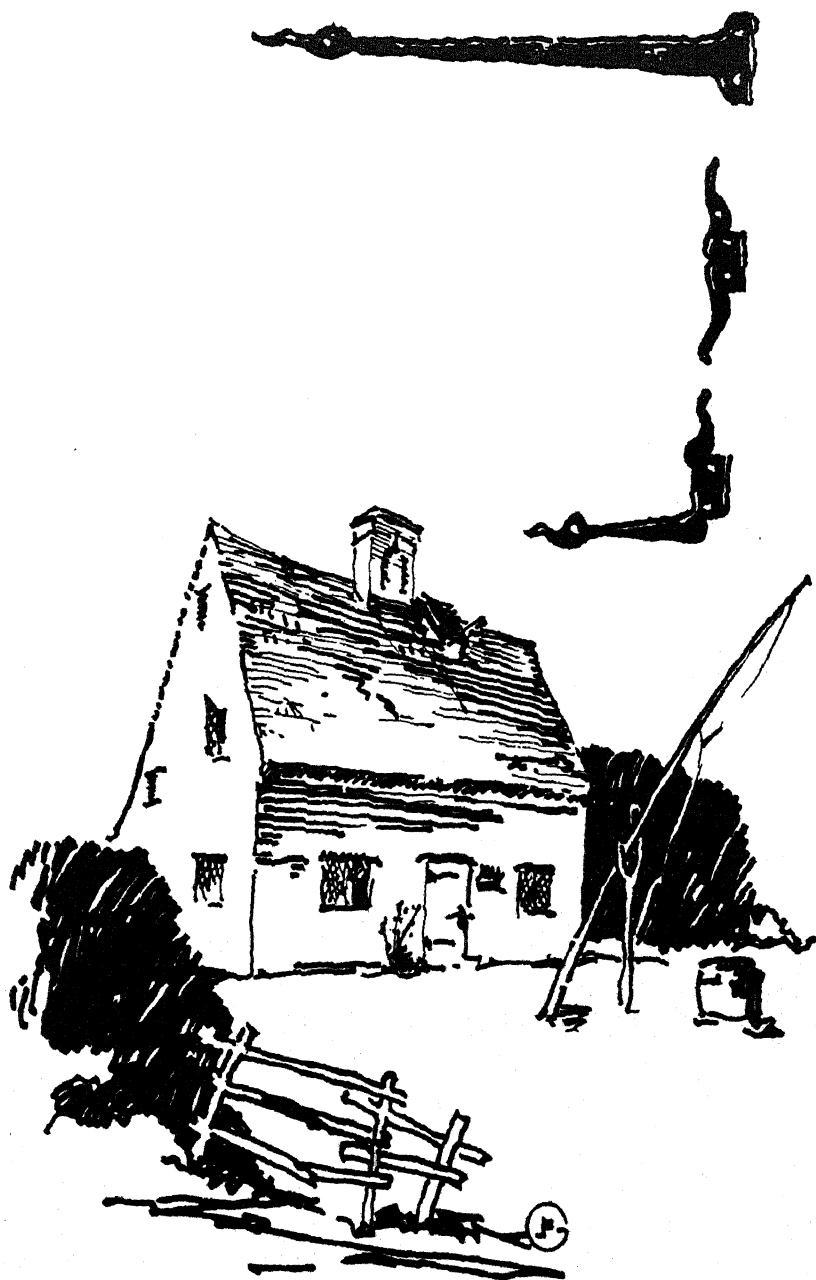


FIG. 79. COFFIN HOUSE, NANTUCKET, 17TH CENTURY

storage of winter supplies and for the making and ripening of home-brewed beer and hard cider.

Heating and cooking were taken care of by the large fireplaces. Their quality and importance can well be appreciated by perusal of the equipment which went with them:⁷

"Several pairs of andirons or cobirons were frequently used to support logs of different lengths. In one hall, at least, two pair of cobirons, and a third pair ornamented with brasses are mentioned. Within easy reach, were the bellows and tongs, the fire-pan for carrying hot coals, the 'fire-fork' and 'fire-iron' for use about the hearth, we presume.

"Over the fire hung the trammel or coltrell, as it is called in one inventory, pot hooks, from the wooden or iron bar within the chimney that was supplanted by the crane in later times, and pots and kettles of copper, brass or iron, and of sizes, various. Some of these kettles must have been of prodigious size. Matthew Whipple had three brass pots that weighed sixty-eight pounds, and a copper that weighed forty pounds. . . .

"A copper baking-pan, a great brass pan, spits for roasts, iron dripping pans to catch the juices, gridirons and frying-pans, an iron peele or shovel for the brick oven, a trivet (a three-legged support for hot pans or pots, or irons), and the indispensable warming-pan, were common appendages of this central orb."

For such a fireplace an allowance of thirty to sixty cords of wood per year was not unusual.

"The chief object in this family room was ever the fireplace, with its broad and generous hearth and chimney, ample enough to allow boys bent on mischief to drop a live calf from the roof, as they did one night, into poor old Mark Quilter's kitchen. As brick chimneys were not the rule at first, safety could be secured only by building their wooden chimneys, daubed with clay, abnormally large. No wonder the worthy folk who wrote those inventories invariably began with the fireplace and its appurtenances. Piled high with logs, roaring and snapping, it sent forth most comfortable heat, and cast a warm glow over the plainest interior, and beautified

⁷ Whipple, Sherman L., and Waters, T. F., "Puritan Homes" (Ipswich Historical Society, 1929), pp. 23-24.

the humblest home. 'Here is good living for those that love good fires,' Pastor Higginson wrote. Bare walls, rough, unfinished ceilings, floors without carpets or rugs, all took on an humble grace; privation and loneliness and homesickness could be forgotten, in the rich glow of the evening firelight."⁸

Lighting was apparently by lamps. There was little tallow from which to make candles; but from the earliest period New England was a fishing community, and there was ample fish oil and plenty of pine trees full of turpentine and pitch.

The floor was of wide oak boards; and the walls were either roughly plastered, or the lath or wattle, filled with clay between the studs, stood exposed.

The small windows with the diamond lights high above the floor, allowing furniture under them, the general low lighting of the room, the candles in their tin wall sconces, all were characteristic. Slightly later but in the same century the floor boards were painted a beautiful squash color or treated with the now popular splatter-dash gold-flecked purple. Also in this century wainscoting inside began to be common, consisting of sheathing of random widths both vertically and horizontally with the horizontal perhaps predominating. Governor Dudley was criticized for the over-elegance of his Cambridge house, which had such interior clapboard wainscoting, but he replied that it was for warmth, which shows that the value of a dead air space as insulation was recognized even at this early date. Often these boards were chamfered or moulded along the edges and occasionally these slight mouldings might be repeated on the summer beam or on the great oak lintel over the fireplace opening. There was no mantel over such a fireplace.

Upstairs one might find two rooms of the same size and position as those below, used for storage purposes or for upstairs sleeping apartments, usually cold and cheerless and often mere lofts. In one house in Rowley a witness testified in court that he could see through the cracks into the room below.

⁸ Whipple and Waters, "Puritan Homes," p. 28.

The furnishings of these houses were not as scanty as might be supposed.⁹

"The dresser or cupboard or shelf bore the books that were found in almost every family: 'the great Bible' and smaller Bibles, the Psalm book, some sad volumes of Doctor Preston's or Mr. Dike's or Doctor Bifield's theological writings, the 'physike book' in one instance, and the silver bowl, or other cherished remnant of former luxury.

"For furniture, there were tables and frames on which boards were laid and removed, forms or long settees, stools and cushions, but only a chair or two, for chairs were luxuries then.

"Other clumsy things, that ought to have found place in barn or 'leanto,' are mentioned so regularly in the list of hall or kitchen chattels, that we are compelled to think they were really there—the 'chirne,' and powdering tub, as they called the great tub used for salting meats, barrels and keelers, cowles for water-carrying and pails, bucking tubs for washing and buckets, beere vessels and sundry articles of unknown use, 'earthen salts,' 'cheese-breads,' 'beekor balke,' and 'hayles.'"

The home, of course, was the center of domestic industry. An average family in 1675 including two or three dependents consisted of nine persons, so a ready imagination can picture the intense activity that went on all the evening by candlelight.

Until the second half of the seventeenth century only the crudest furniture was made in New England and very little could be imported in the tiny ships whose holds were occupied with indispensable articles such as provisions, arms, ammunition, tools, seeds, and clothes, and whose decks were crowded with livestock. In 1645 Mrs. Lake, mother of the wife of our aforesaid Captain John Gallup, wrote to England to buy all of the things she thought she needed properly to outfit her daughter's new home. The inventory is of interest:¹⁰

"A peare of brasse Andirons,
A brasse Kittell,

⁹ Whipple and Waters, "Puritan Homes," p. 24.

¹⁰ Smith, Helen Evertson, "Colonial Days and Ways" (The Century Co., New York, 1900), p. 72.

- 2 grate Chestes well made,
- 2 armed Cheares with fine rushe bottums,
- A carven Caisse for Bottels wch my Cuzzen Cooke has of mine,
- A Warmeing Pann,
- A big iron Pott,
- 6 Pewter Plates,
- 2 Pewter Platters,
- 3 Pewter Porringeres,
- A small stew Pann of Copper,
- A peare of Brasse and a peare of Silver Candlesticks (of goode Plate.)
- A Drippe Panne,
- A Bedsteede of carven Oake, (ye one in wch I sleept in my Father's house, wth ye Vallances and Curtayns and Tapestrey Coverlid belongynge, & ye wch my Sister Breadcale (?) hath in charge for Mee.)
- 3 Duzzen Nappekings of fine linen damasque & 2 Tabel cloathes of ye same. Alsoe 8 fine Holland Pillowe Beeres & 4 ditto Sheetes,
- A skellet,
- A pestel & Mortar,
- A few Needels of differnt sizes,
- A carpet (that is, a table cover; the name was then universally thus applied), of goodley stuffe and colour, aboute 2 Ell longe.
- 6 Tabel Knifes of ye beste Steal wth such handels as may bee.
- Alsoe, 3 large & 3 smal Silvern Spoones, & 6 of horne."

This inventory is not so very sparse; Governor Winthrop's of 1649 was not proportionately a bit finer.

Chairs in these houses, if they existed at all, were reserved for the heads of families, for the most honored guests, and for the infirm, for whom they must have been very uncomfortable. A sideboard was a mark of positive affluence and even a cupboard indicated a fair degree of prosperity. Porcelain was a luxury anywhere, pewter too fine for daily use save by the wealthy, and wooden dishes the normal equipment.

In order more clearly to picture the sort of life that went on

in such a home it is necessary to consider briefly the manners and customs of colonial life.

Unlike other colonizers, the English who came to American shores came not as adventurers but in families. To this difference may be attributed a large measure of the success of English colonization as opposed to that of France and Spain.

In such a civilization family ties were indispensable. Economic force pressed strongly on women to marry, but bachelors also were rare and were viewed with disapproval. Men were more often married under twenty than over and girls usually at sixteen or under, while an unmarried woman of twenty-five would be called an "antient maid." None the less child marriages were not tolerated. Marriages of convenience were common but there is more than one record of a girl standing up for her rights and marrying the man of her choice. Once married, a woman's duties were to be modest, efficient in domestic management, plus a great deal of child-bearing. In spite of the great number of children brought into the world there is little evidence that the Puritan fathers were particularly fond of them. They were always complaining about children's pranks. Children were expected to be meek and to address their parents respectfully. They were developed mentally and physically very early. Boys entered Latin school as young as six and a half and began to learn Latin younger than that. They became men at sixteen, paid taxes and served in the militia, and girl orphans were permitted at fourteen to choose their own guardians. Children were put to work early.

There is no real reason to suppose that parental and filial love was very different in the days of the colonists from today. Hard circumstances inevitably make hard parents and as economic conditions in the colonies improved the severity with which children were treated gradually diminished. The real difference between the family of the colonies and the family of today lay in the dependence of the wife and children and the participation of the whole family in all the work of the home.

Courtships were brief, oftentimes acquaintances were struck up in the streets with language perhaps more respectful than on similar occasions today and more frequently leading to marriage. One of the characteristic features of courtship was bundling, apparently tolerated because houses were cold but subject to considerable denunciation. A wedding was a great affair, of two or three days' feasting. Common law marriages were not at all unusual and for a number of years perfectly acceptable. Divorce was by no means unknown although the rights of the husband in this respect were greater than the wife's.

The house was like a beehive of domestic industry. People rose very early, at five o'clock for breakfast in the summer and six to six-thirty in the winter, and went to bed correspondingly soon after dark. Throughout the day there was a great deal to be done. In general the wealthier the citizen, the more the labor carried on under his roof. Smith¹¹ describes a Dutch housewife whose work was undoubtedly quite the same as that of other colonial dames. Her work included the scrubbing of the floors, building and feeding the fires, hatchelling the flax, carding the wool, weaving, making soap, chopping sausage meat, dipping candles, washing the linen, drying, spicing, salting or smoking meat, pickling fish, drying vegetables, preserving fruits. Weaving was heavy work and only the wealthy could at first afford looms; consequently every house did not necessarily carry on its own cloth making. There were itinerant weavers and poorer neighbors who might come in to do the weaving for payment in kind. Spinning, however, was quite general in every house and at first the distaff was used and not the wheel. Linen was said to need thirty to forty bleachings and from the sowing of the flax to the end of the last bleaching sixteen months usually elapsed. Maidservants were scarce indeed as most of them married shortly after they arrived in the colonies, there were few negroes at the time, and half-tamed

¹¹ Smith, "Colonial Days and Ways," pp. 109*f*.

squaws afforded poor domestic assistance; consequently a large amount of actual work devolved on the women and younger boys of the family.

Food in early New England days was apparently quite good even if simple. Some authorities state that there were only two meals, characteristically consisting of pea or bean porridge made of the liquor of boiled salt meat and mixed with meal and sometimes hasty pudding and milk. The poor people certainly lived upon some such diet; but, as Whipple has stated, five-pound spits, pans, gridirons, and many of the other things we have mentioned do not denote such a simple fare. Food was served on wooden plates or pewter. There were apparently no forks, no coffee, no tea; while as in England beer, cider, and spirits were all home brewed. The earliest chocolate came to Connecticut in 1679, coffee in 1684, tea in 1695. White bread was a great delicacy and hard to make. There was little yeast, and leaven is hard to keep from one baking to the next. The brick or stone oven so common in later colonial days was rare in the first three decades. Wheat and oatmeal were imported at great cost and arrived in bad condition; so roughly pounded or ground meal of Indian corn was used. In summer vegetables were common but none were useful all the year round unless they could stand deep burial in piles of earth and leaves. As late as 1672 livestock was very valuable. In 1640 a good cow was worth £30, while a mechanic could only earn 14d. to 18d. per day. Since only about 25 per cent of the cattle imported were expected to survive the voyage, beef was by no means common and even milk was rare enough. There was little butter.¹² Fruit trees were imported regularly every year but they did not do very well and the colonists relied principally in the early days upon wild raspberries and strawberries, of which Governor Winthrop said there were many two inches or more long. These

¹² Hannah Gallup's mother made some butter for her wedding but was rather disturbed about having done so. She says, "I made some very goode buttere although it seemed almost Wicket to soe yuse ye milk yt is so sore needet for ye sick and ye littell ownes." — Smith, "Colonial Days and Ways," p. 82.

kinds of fruits did not dry very well and consequently there was little fruit in the winter. The pumpkin was a most popular vegetable because it kept.

The Dutch fared somewhat better. They were reputed to have the best food in the colonies — liberally brandied mince pies, cookies, crullers, olekoeks,¹³ spice cakes once or twice a week. Waffles, wafers, raised muffins, griddle cakes, were almost a daily article of diet. Supawn (corn meal porridge) was served daily for breakfast with butter, West Indian molasses, or milk or dried fruits which had been soaked over night. Oysters and clams were brought to New Amsterdam and buried in beds of sand and Indian meal; watered twice a week they kept all winter. Game was plentiful and cheap until 1800.

Personal hygiene was not very remarkable in the colonies. The weekly bath in advance of Sabbath was quite assiduously practised but other care of the body and notably of the teeth was little thought of. We find gunpowder recommended for preserving the teeth and gums in the *New York Gazette and General Advertiser* for August 12, 1799, this gunpowder to be applied by means of a butcher's skewer bruised and bitten at one end to form a brush. Paul Revere, who was one of the leading go-getters of the colonies, advertised in the *Boston News Letter* of August 25, 1768, that he could do a very good job of false teeth. George Washington wrote from Valley Forge for a particular screw driver which would tighten his palate. Tooth brushes are mentioned as early as 1650 in the Verney Papers as "elegant trifles used by ladies of the French capital." Only occasionally do we find a house with water piped into it. A parsonage in Sharon, Connecticut, in 1754 had a cedar log aqueduct from a spring and a drain of the same type.

The Sabbath was the important day in the colonies. Since no work could be done on this day there was tremendous activity in the house on Saturday night. Immediately after supper there was an hour's catechism and then the scrubbing began. Clothes tubs were brought up from the cellar and set in front

of the fireplace, each screened on all but the fire side. The fireplaces of the time were amply large enough to accommodate three or four such bathing booths at a time. People who cared for their complexions did not use home-made soap in these ablutions but softened the water with a little hardwood lye and then used rose water or unguents to heal the after smart. Buttermilk was considered an excellent emollient in the summer.

The family rose early on Sunday morning and, not being permitted to do any real cooking, had a hasty cold breakfast. Thereupon they set out for the church, riding or walking for miles over rough roads in the cold to an edifice entirely unheated when they got there, where they sat for two hours listening to a sermon. Then there was an hour's adjournment which, however decorous, was perhaps the high social point of the week. Then back to church for two hours more, and home. As soon as the sun went down the Sabbath was over and the largest and best meal of the week was prepared and eaten with relish.

The Hartford Blue Laws provided that "No one shall travel, cook victuals, make beds, sweep house, cut hair, or shave, on the Sabbath-day. No woman shall kiss her child on the Sabbath or Fasting day. No one shall read Common Prayer, keep Christmas or Saint days, make minced pies, dance, play cards, or play on any instrument of music, except the drum, trumpet, and jewsharp."¹⁴

People were penalized in various parts of New England for attempting to show off new clothes, for "riding violently to meeting," for "unseemly walking," for "hanging onto men's gates on Sabbath evening to draw company out," and even George Washington it is said was once stopped for traveling on a Sunday. Since whole volumes could be written about Blue Laws, it is undesirable to study them further here and they are mentioned merely to round out the picture. Naturally in the Puritan colonies amusements were somewhat circumscribed.

¹⁴ These laws are credited to the Rev. Samuel Peters, author of "General History of Connecticut." Many people think they are his own invention but, whether they are or not, the spirit is true.

While card-playing was held in abhorrence by the strict Puritans, gambling with cards was elsewhere a common pastime. Lotteries were general. The Virginians hunted to hounds, had cock fighting and horse racing. The theater was popular nearly everywhere except in Massachusetts and performances were common throughout the other colonies. In Massachusetts a law prohibiting stage plays was passed in 1750 but we find circuses, fireworks, and animal exhibitions very common — "A Fine Large White Bear . . . a sight far preferable to the Lion in the judgement of all persons who have seen them."¹⁵

There were other amusements, however. Drinking was extremely common. Games and races on the green were by no means prohibited although the maypole had been done away with. Towards the end of the colonial period social clubs began to be very common, which met in homes of members and held debates or heard papers read by other members, after which there was food and dancing except when the meetings were held at the parsonage.

Travel was rare. Everybody stayed at home as much as possible. Few people owned anything to travel in or any animal for conveyance except a cart horse. Private carriages were rare. Most people walked everywhere. The post was so slow that if a man had an important letter he might walk twelve miles from Weston to Boston to post it. A gentleman of Framingham seventy-seven years old is said to have walked to Cambridge, seventeen miles away, performed an errand, and walked back without sitting down. It was not until 1783 that a stage was operated between Boston and New York. It ran thirty miles a day but stopped over night between Boston and Providence. One could also go to New York by stage to Providence and then by sailing sloop down the Sound, and this was cheaper although it took a great deal more time.

The newspaper had begun to be published but there was little news in it as it consisted principally of "a hodgepodge of

¹⁵ Train, Arthur, "Puritan's Progress" (Charles Scribner's Sons, New York, 1931), p. 54.

clippings from other papers, letters on politics, anecdotes, and notes of European events brought by sailing vessels and already months old, moralistic essays alongside dirty poetry and coarse stories, appeals from the printer for payment from his delinquent subscribers, and notices offering rewards of a few dollars for the return of runaway slaves and stray animals.”¹⁶ The entire amount of news value accorded to a fairly important American event may be found by perusing carefully the *New York Gazette and The Weekly Mercury* of July 8, 1776, where on page three rather inconspicuously set is the following:

“Philadelphia, June 3

“Yefterday the Congress unanimoufly Refolved to declare the United Colonies FREE and INDEPENDENT STATES.”

Education was taken very seriously in the colonies. As we have pointed out, it began at an early age and soon the children were sent to a district school. Many had to stay away in cold weather for lack of shoes. Ink was made by steeping tree bark in water and diluting with copperas. Copy books were made by hand out of foolscap. Quill pens were in general use and there was no blotting paper. The studies were principally Latin and Greek, with a little mathematics, logic, and rhetoric. The Bible was the principal textbook. Students were kept carefully in check. In spite of the deficiencies of education the general tendency to have everybody at least partly educated and to provide public schools marks the beginning of an essentially American ideal which has been further and further developed as years have gone on.

Crime, of course, was severely punished. The stocks were not uncommon; but more serious than this was the fact that imprisonment for debt was common up to 1829. The jails were abominable.

The colonists busied themselves with wage fixing. In 1633 Massachusetts Bay Colony adopted a statute fixing wages of 2s. per diem for carpenters, sawyers, masons, bricklayers, tilers,

¹⁶ Train, “Puritan’s Progress,” p. 60.

and other master workmen. There was also a law against idleness. All through the seventeenth century we find this kind of regulation.

"Vain efforts to control wages were made in Massachusetts Bay, both by the General Court and by the several towns. An important statute was enacted in 1633 by the General Court. Master (or as we should say, journeymen) carpenters, sawyers, masons, 'clapboardryvers,' bricklayers, tilers, joiners, wheelwrights, mowers, etc., were to receive not more than two shillings per day when 'boarding themselves,' or fourteen pence per day with 'dyett.' Inferior workmen in the same occupations were to be rated by a constable and two others. The best laborers had eighteen pence per day. All were to work the whole day, time being allowed for 'foode and rest.' Penalties were prescribed against both giver and receiver of extra wages. . . ." ¹⁷

Houses were not of great value in the colonies. Thus Matthew Whipple living in Ipswich had his estate inventoried in 1645. His house and barn and four acres of land were valued at £36, the same amount at which six bullocks were inventoried. It would probably take six first-prize bulls to equal the cost of a corresponding house today. In 1648 Whipple's executor sold this house with one acre of land to Robert Whitman for £5, indicating that the house itself was not worth a great deal. In 1652 Whitman resold this house with another and a lot of land, size unspecified, for £22. Many values of houses in this period are quoted at £12 to £20.

Without investing our colonial ancestors with any romance we may conclude that for their time their houses were extremely well built, extremely habitable and serviceable, and represented the maximum of domestic efficiency. Grim necessity controlled their architecture, which was straightforward and essentially beautiful, as its wide popularity in our own day makes us realize.

¹⁷ Weeden, William B., "Economic and Social History of New England, 1620-1789," Vol. I (Houghton-Mifflin and Co., Boston and New York, 1890), p. 83.

It may be interesting to quote one or two specifications,

Contract of John Davys, joiner, to build for William Rix (1640) 16x14, "'chamber floare finish't, summer and joysts, a cellar floare with joysts finish't, the rooffe and walls clapboarded on the out syde, the chimney framed without daubing, to be done with hewan timber.'" Price, £21.

A much better house (two stories) for Deputy Governor Symonds:

"I am indifferent whether it be 30 foote or 35 foote longe; 16 or 18 foote broad. I would have wood chimnyes at each end, the frames of the chimnyes to be stronger than ordinary, to beare good heavy load of clay for security against fire. You may let the chimnyes be all the breadth of the howse if you thinke good; the 2 lower doores to be in the middle of the howse, one opposite to the other. Be sure that all the dore waies in every place be soe high that any man may goe vpright vnder. The staires I think had best be placed close by the dore. It makes noe great matter though there be no particion upon the first flore; if there be, make one bigger than the other. For windowes let them not be over large in any rooms and as few as conveniently may be; let all have current shutting draw windows, haveing respect both to present and future vse. I think to make it a girt house will make it more chargeable then neede; however, the side bearers for the second story being to be loaden with corne, etc. must not be pinned on, but rather eyther lett in to the studds or borne vp with false studds and soe tenented in at the ends. I leave it to you and the carpenters. In this story over the first, I would have a particion, whether in the middest or over the particion under, I leave it.

"In the garrett noe particion, but let there be one or two lucome (Lutheran?)¹⁸ windows, if two, both on one side. I desire to have the sparrs reach downe pretty deep at the eves to preserve the walls the better from the wether. I would have it sellered all over and soe the frame of the howse accordeingly from the bottom. I would have

¹⁸ This is quoted verbatim from Thomas Franklin Waters in "The Early Homes of the Puritans," reprinted as "Puritan Homes" by Sherman L. Whipple and Thomas Franklin Waters (Ipswich Historical Society, 1929), p. 20. Mr. Waters evidently neglected the obvious meaning of lucome (see Oxford dictionary) from the French "lucarne," meaning "dormer window."

the howse stronge in timber, though plaine and well brased. I would have it covered with very good oake-hart inch board for the present, to be tacked on onely for the present, as you tould me. Let the frame begin from the bottom of the cellar & soe in the ordinary way vpright, for I can hereafter (to save the timber within ground) run up a thin brick worke without. I think it best to have the walls without to be all clap boarded besides the clay walls."

Meanwhile in the Dutch Colonies a somewhat different type of house was developing. The people of New Amsterdam were merchants first and later peasants. Their materials were red sandstone of the glacial deposits in New Jersey, and field stone. It was perfectly natural in New Jersey, therefore, to pile up these stones as the walls of the houses. On Long Island on the contrary there was no building stone and the houses were made of wood. These stones were not laid in mortar, as lime had to be imported; and the stones were therefore remarkably well squared up, laid dry, and then chinked with clay. Clay in a dry climate is nearly as good as cement but under conditions of rain and frost it disintegrates and washes out. Therefore to protect their chinking from moisture the Dutch settlers extended the roof into a long overhang at first straight and later with the wide sweeping curve characteristic of the Dutch Colonial, and probably intended to raise the eaves sufficiently to light the rooms.

The Dutch gave us one of America's few contributions to domestic architecture, the gambrel roof, which apparently was unknown or at least sporadic in Europe. This roof permits greatly increased space in the second story without increased height. The Dutch were timid in its use in the early days and did not gain a great deal of space, since the two pitches were nearly the same. A little later roofs were extended beyond the house, affording space for a narrow porch or piazza supported on columns; and finally the last development was a set of low windows below the roof on the second story of the type called "lie on your stomach." Towards the end of the seventeenth century the stone was frequently stopped at the piazza roof line

and wood was used above. The porch, or *stoep*, is characteristic of Dutch dwellings.

A fully developed Dutch house is illustrated by the Codwise house, built in New Amsterdam on what is now Dey Street, about 1700. The house had a central chimney stack built of stone into which were let four huge fireplaces, each of which lay



FIG. 80. SNEDEN HOMESTEAD, HUDSON RIVER, ABOUT 1700

diagonally across the corner of a room twenty-two feet square. The lower story was made of stone or buff-colored brick and the exterior walls of the upper story of cedar shingles. In the front and on the gable sides the second story projected slightly over the first. At the rear there was a one-story addition and the roof sloped down in a long graceful curve to cover this. All the first-floor rooms were wainscoted and painted white. Dutch tile were set around the fireplaces, dealing mostly with naval

or scriptural scenes but one in plum color illustrated the misadventures of Don Quixote. The walls of one room were hung with embossed leather richly decorated in gold arabesque, and picture papers were used in the other best rooms. The bedroom walls as was quite customary were washed with lime.

On the second floor there were six rooms across the front extending back to the center of the house. The rest of the upper story was unceiled, forming an open garret with square windows at each end and dormers on the side, the roof sloping from the peak to the floor. Here hung rows of smoked hams, ropes of sausage links, festoons of dried apples; and beneath this decoration the flax was hatchelled, the wool carded and woven, almost without cessation except in the coldest weather. Stairs led to the cellar on each side of the house and were covered by bulkhead doors. In the winter these stair openings were filled with straw and dried leaves, and earth and sods were laid over the bulkheads.

One of the most interesting things in the house is the hiding place in the chimney. The four fireplaces were backed up one to another in such a way as to form inside the chimney a diamond-shaped space in which two men could lie side by side. On each side of each of the fireplaces in the four downstairs rooms was a narrow closet¹⁹ and in two of these eight closets doors led into the chimney room. Its floor was paved with brick and there was no ceiling as the flues gradually converged to leave only a small opening at the roof. From one end of the *stoep* to the corner of the detached kitchen there was a long covered passageway.

The house was rather handsomely furnished with a mahogany wardrobe, a mahogany combination desk and wardrobe, a serpentine sideboard of mahogany inlaid with satinwood, china, a gilded mirror of Venetian glass, a slender-legged dining table. Thus as early as 1700 some degree of elegance was found in the colonies.

The early houses in Virginia were not fundamentally dif-

¹⁹ These being the only closets in the house.

ferent from those we have already described. The true and typical Virginia house as now conceived did not really develop until the eighteenth century, when the Georgian fashion gave the proud Virginia planters a style in accord with their own tastes. As in the homeland, the eighteenth century witnessed a gradual esthetic exfoliation in the American colonies. The principles of Jones and Wren were rapidly brought to our shores and a young and growing country found time to improve its art of living.

One of the principal features of the Georgian style was the height of ceilings. In early American houses ceilings had just cleared the heads of normal people but in the middle of the eighteenth century they were raised to 11 feet and by 1771 even reached 18 feet. Such ceilings were of course only for elegance and made rooms hard to heat, so they were suited only to the southern climate.

Not until the Industrial Revolution produced the mad scramble of the nineteenth century do we find American unrest subjecting domestic building to whims and fancies. Throughout the eighteenth century the American home had elegance and calm, and the period represents a quiet interim between the strain of pioneering and the confusion of growth.

While the earlier American houses had been built without an architect and truthfully expressed their function in the simplest possible terms, American Georgian architecture, exactly as its English counterpart, was dependent on the architect. Some of the houses were indeed designed by English architects but many more by American professionals or amateurs. Jefferson who himself designed Monticello is said to have had a great influence on American architecture. In his notes on Virginia in 1784 he made the statement, "Houses of brick and stone are less healthy than those of wood due to dampness." It is doubtful whether this statement has carried much weight but at any rate it represents a perfectly common belief by no means entirely dispelled today.

The Georgian in its emphasis on symmetry did not in

America develop such absurdities of plan as appeared in England, but Mt. Vernon, perhaps the most typical American Georgian house (Fig. 81), shows quite clearly the English influence. A comparison of this plan with that of Stoke Park (Fig. 70), will make the point clear. These Georgian homes, beautiful as they are, are not an essential part of the development of the American home. The Georgian influence might have merely appeared in later American homes as does the influence of Jacobean, Elizabethan, and Tudor architecture. Accordingly, we need not spend any great time on American Georgian houses, merely noting that the plan provided for

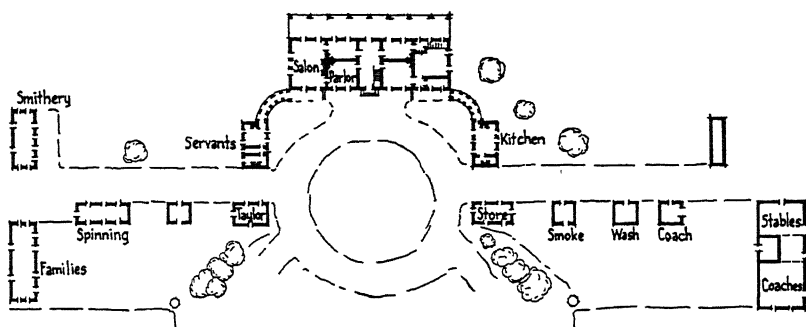


FIG. 81. PLAN, MOUNT VERNON

nearly everything still required in an American house, that a new degree of elegance was imparted to the structure and finish, and that on the whole the style did not run riot in this country as it did in Europe. In Virginia the detail of the Georgian was quite pure Greek and carefully worked out. In New England it was done somewhat poorly. In New Amsterdam we find the classic proportions replaced by square columns and capitals; the Dutch Georgian, charming as it was, never attained the stateliness and elegance of the Virginian.

George Washington was very fond of his house and took a great deal of pride in the building of it. It may be of interest as a comment on the times to quote from his letter to William Rumney in 1784: ²⁰

²⁰ Coffin, Lewis A., Jr., and Holden, Arthur C., "Brick Architecture of the

"General Washington presents his compliments to Mr. Rumney — and would esteem it as a particular favor if Mr. Rumney would make the following enquiries as soon as convenient after his arrival in England, and communicate the result of them by the Packet, or any other safe and expeditious conveyance to this country.

"*First.* — The terms upon which the best kind of Whitehaven flagstone — black and white in equal quantities — could be delivered at the port of Alexandria, by the superficial foot — workmanship, freight and every other incidental charge included.

"The stone to be $2\frac{1}{2}$ inches, or thereabouts thick; and exactly a foot square each kind.

"To have a rich-polished face and good joints, so that a neat floor may be made therewith.

"*Second.* — Upon what terms the common Irish marble (black-and-white, if to be had) — same dimensions, could be delivered as above.

"*Third.* — As the General has been informed of a very cheap kind of marble, good in quality, at or in the neighborhood of Ostend, he would thank Mr. Rumney, if it should fall in his way, to institute an inquiry into this also.

"On the report of Mr. Rumney, the General will take his ultimate determination; for which reason he prays him to be precise and exact. The Piazza or Colonnade for which this is wanted as a floor is 92 feet, 8 inches, by 12 feet, 8 inches within the margin or border that surrounds it. Over and above the quantity here mentioned, if the above flags are cheap, he would get as much as would lay floors in the circular colonades, or covered ways at the wings of the house — each of which at the outer curve is 38 feet in length by 7 feet, 2 inches in breadth, within the margin or border as aforesaid.

"The General being in want of a house-joiner and bricklayer who understand their respective trades perfectly, would thank Mr. Rumney for enquiring into the terms upon which such workmen might be engaged for two or three years (the time of service to commence upon the ship's arrival at Alexandria); a shorter term than two years would not answer because, foreigners generally have a seasoning which with other interruptions too frequently wastes

the greater part of the first year — more to the advantage of the employer than to the employed. Bed, board and tools to be found by the former, clothing by the latter.

“If two men of the above Trades and of orderly and quiet deportment could be obtained for twenty-five or even thirty pounds sterling, per annum each (estimating the dollar at 4s.6d.), the General, rather than sustain the loss of time necessary for communication would be obliged to Mr. Rumney for entering in proper obligatory articles of agreement on his behalf with them and sending them by the first vessel bound to this port.

Mount Vernon, July 5, 1784.”

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From the end of the Revolution to today many changes in American homes have been brought about by the great changes in industry and communication. The life of a child on a Virginia plantation in 1783 is more like that of a child in an Elizabethan manor than like a modern youngster's, even on a country estate. Modern commerce and factories have removed almost all industries from the home. In the city people do very little work in their homes and most of them spend very little time there. Improved communication has brought to country dwellers almost everything available in the cities, so that the difference between city and country decreases steadily. Public service utilities, water, drainage, gas, electricity, have altered ways of life and consequently changed the character of the American home. Central heating, plumbing, modern ideas of hygiene, have affected it, besides a range of materials continent-wide in extent, made available by the railroads. Recent as all this seems, the inventions and improvements that embody these changes begin to appear in the Colonial period, and we may run over a number of them before closing this chapter.

During the period between 1607 and 1800 we find the following changes. Dormer windows were introduced in 1700. Thatched roofs disappeared at the same time. By 1706 the mud and stick chimney had been abandoned in favor of brick. Iron railings became common in 1756 and at the end of the century

city houses were being built of three to five stories, in the urban Georgian style. The houses were heated in the early years by fireplaces with stone or wood and clay chimneys. In 1653 an iron-backed fireplace was added and in 1660 bellows were provided. In 1700 there came a great improvement in the use of flint and steel for lighting the fire, thus eliminating the necessity of "borrowing fire" from a neighbor if one's own fire had gone out. In 1706 a sort of weather stripping was developed of sand-stuffed rolls placed at the doors at night. In 1742 the Franklin stove appeared but was not popular. By 1776 soft coal was used to some extent in Virginia replacing wood, while anthracite was still unknown and did not appear until 1804.

Light in the early period was by pitch-pine knots placed in the fire, or by candles. In 1687 bayberry candle making became common. In 1700 the tallow candle developed; and shortly thereafter the rise of the American whaling industry resulted in the whale oil lamp, while in 1751 there was a factory in Providence for making sperm candles. Almost at the end of the century gas lamps were tried in England.

Water supply almost throughout the period consisted of public wells, although in the last hundred years there was serious effort to develop pumps. We have noted one or two houses with a piped water supply. In 1652 the public water supply of Boston consisted of a reservoir near Dock Square, 12 feet by 12 feet, fed by nearby springs. By 1700 the water supply was brought by mains of pitch-pine logs laid from Jamaica Pond. In 1746 we find iron drain pipes used for the first time. In 1773 Providence laid two miles of wooden logs and built a reservoir 13½ feet wide, 30 feet long, and 10 feet deep. In 1774 the New York waterworks were started, being finished in 1797. By 1776 every New England town had its pump; and in 1800 the steam engine was used successfully in pumping water for cities, while lead pipes were in general use.

The period was one almost entirely of domestic industry, the Industrial Revolution not setting in until after the American

Revolution; but there was a tendency with increasing wealth and comfort to subdivide labor somewhat, and at the end of the period the wealthier people bought their clothing, either importing it from England or hiring someone to make it for them. Clothes were washed outdoors or in an outhouse and spread on the bushes to dry. Although by the beginning of the Revolution there were some carpets, sanded floors were common down to 1780 and they prevailed in Boston for some time thereafter. Furniture throughout the period was constantly improving in comfort, although there was very little real American style, after the early American furniture, until 1795, when the work of Duncan Phyfe began.

A glass works was established in Salem in 1638, printing in Cambridge in 1639, the Jenks Cast Iron Works in 1642. The colonies were exporting flour by 1660; but there were no large milling developments until the first effects of the Industrial Revolution began to be felt on these shores. The English tried to conceal their methods of manufacture after the inventions of Arkwright and Crompton, but gradually American ingenuity obtained the secrets and improved upon them. In 1778 we find the first iron rolling mill and in 1793 the cotton gin was invented. At this point America was ready to begin her busy nineteenth century.

CHAPTER XVII

American Homes. 1800-1920

LIFE in the United States throughout the nineteenth century and indeed well into the twentieth may be considered in two phases: the steady growth of culture and of physical convenience in the more settled areas; and the more static life on the frontier, which, however, itself was always on the move.

James Truslow Adams in his admirable "Epic of America" states that the pioneer is the man who is willing to put up with physical discomfort in order to avoid the mental discomfort of struggling with complex facts in a settled community. He feels that the pioneers in every generation have been those men who have run away from difficult problems of earning a living in settled communities to face unknown dangers where life was simpler. This idea probably does not do full justice to the pioneer. It does, however, account for the low quality of homes on the frontier if their owners felt no desire to improve them by efforts of mind.

Pioneering began very early in the United States. Perhaps the colonists who fled England rather than remain to fight the Stuarts were the first of these refugees from civilization. Soon men of the same stamp were pushing across the Alleghenies, then across the plains, and finally across the Rockies. Then they turned northward to Alaska, until today there is almost no pioneer fringe left.

The homes of these people were in every period nearly the same. At the outset they were scattered cabins built of the materials of the country. In most cases the country afforded wood,

and the log cabin was the type; but on the plains the covered wagon often served for a home, and in the Southwest adobe was the natural building material of a people who needed to turn their attention to gaining sustenance and could not spend much time on the erection of a home.

The father of Abraham Lincoln was a perfectly typical pioneer and several of the early homes of Lincoln have been admirably portrayed for us.

The cabin in which Lincoln was born February 12, 1809, was located two and one-half miles from Hodgenville, Kentucky, where

"they were trying to farm a little piece of ground and make a home. The house they lived in was a cabin of logs cut from the timber nearby.

"The floor was packed-down dirt. One door, swung on leather hinges, let them in and out. One small window gave a lookout on the weather, the rain or snow, sun and trees, and the play of the rolling prairie and low hills. A stick-clay chimney carried the fire smoke up and away." . . .¹

Seven years after Lincoln was born, life became too complicated in Kentucky for Tom Lincoln so they journeyed to Indiana.

They came to the Ohio, crossed and got a wagon, loaded and drove sixteen miles to the claim over a trail so narrow that sometimes they had to cut down brush and even trees to get the wagon through.

"They had arrived . . . without a horse or a cow, without a house, with a little piece of land under their feet and the wintry sky high over. . . .

"The whole family pitched in and built a pole-shed or 'half-faced camp.' On a slope of ground stood two trees about fourteen feet apart, east and west. These formed the two strong cornerposts of a sort of cabin with three sides, the fourth side open, facing south. The sides and the roof were covered with poles, branches,

¹ Sandburg, Carl, "Abraham Lincoln: The Prairie Years" (Harcourt, Brace and Co., New York, 1926), Vol. I, p. 15.

brush, dried grass, mud; chinks were stuffed where the wind or the rain was trying to come through. At the open side a log-fire was kept burning night and day. In the two far corners inside the camp

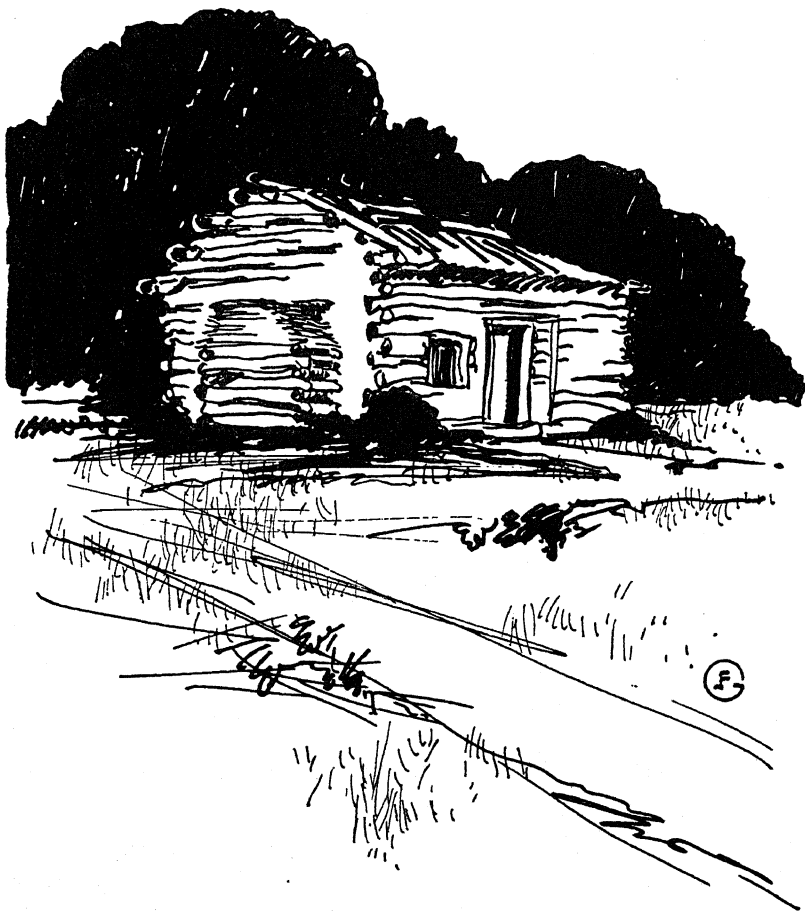


FIG. 82. LOG CABIN IN WHICH LINCOLN WAS BORN

were beds of dry leaves on the ground. To these beds the sleepers brought their blankets and bear skins.”²

They lived in this rude shelter for a year. Water came from a spring a mile away and was fetched by the children. The light

² Sandburg, “Abraham Lincoln,” pp. 31-32.

was from the fire and was made brighter by throwing on pitch-pine knots. Mosquitoes and flies were plentiful in summer. Meanwhile they were building a new cabin.

"After months the cabin stood up, four walls fitted together with a roof, a one room house eighteen feet square for a family to live in. A stick chimney plastered with clay ran up the outside. The floor was packed and smoothed dirt. A log fire lighted the inside; no windows were cut in the walls. For a door there was a hole cut to stoop through. Bedsteads were cleated to the corners of the cabin; pegs stuck in the side of a wall made a ladder for young Abe to climb up in a loft to sleep on a hump of dry leaves; rain and snow came through chinks of the roof onto his bearskin cover. A table and three-legged stools had the top sides smoothed with an ax, and the bark side under, in the style called 'puncheon.'"³

This Lincoln cabin is shown in Fig. 82 and is characteristic of the American pioneering home. Ten people per square mile was too much population for Tom Lincoln. He wanted room. To this day the American farmer lives on his farm reasonably far from his neighbor, while the French farmer prefers to rub elbows in the evening and avoids solitude. There was, however, another class of pioneers with urban instincts who were responsible for gold and oil rushes. These people never lived in isolated log cabins. They threw up rude towns of bare boards and canvas, with muddy streets and no conveniences, as near as possible to the gold field or the oil wells. Then as soon as possible they imported things from the East, less for comfort one suspects than as evidence of wealth and taste. Nearly every mining town first had its bars and bawdy houses, but not long after its "opera house." A lively picture of this sort of town is afforded in Edna Ferber's "Cimarron."

Meanwhile in the civilized parts of the United States the progressive changes which account for the American home of today were taking place. It will be convenient in discussing these to separate the period into three divisions, principally by dates but also by phrases: the Period of Consolidation (1783-

³ Sandburg, "Abraham Lincoln," p. 38.

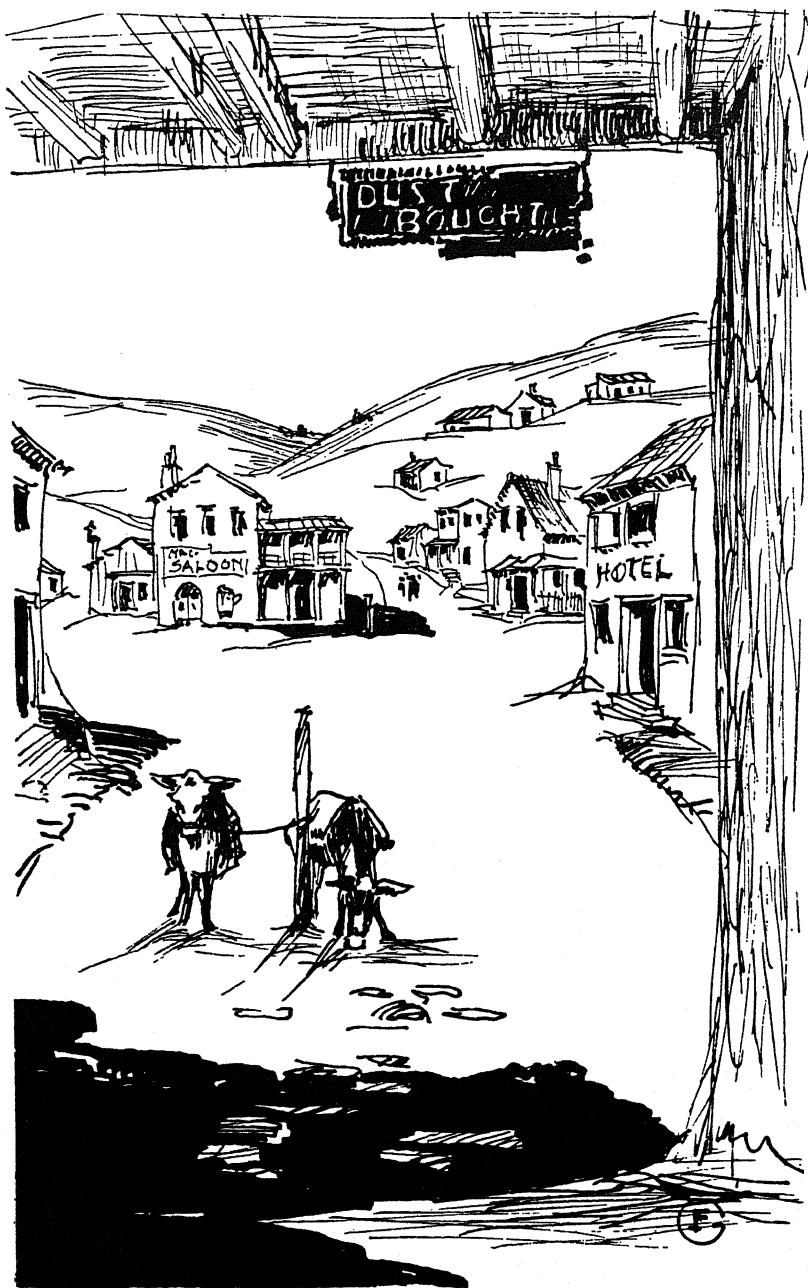


FIG. 83. AN AMERICAN PIONEER MINING TOWN

1820), the Period of Expansion (1820-1865), and the Period of Standardization (1865-1918).

PERIOD OF CONSOLIDATION — 1783-1820

By the beginning of the Revolution the architect had become a definite factor in the American community and as a matter of course took his part in the building of homes for the better classes. The Revolution, unlike modern wars, never resulted in large devastated areas; and, while battles were being fought in one section, in others life went on peacefully unconscious of the war. Therefore the house continued to develop right through the war and on to 1820. Under the successive English influences of Jones, Wren, and the brothers Adam, American houses steadily improved in the modest comfort they provided and in the simple straightforward elegance of their classical interiors and exteriors.

The country was growing rapidly. Population was jumping ahead. By 1820 it had increased from three and a half to six millions; instead of thirteen states there were twenty-four; instead of no cities of 40,000 there were four, and New York and Philadelphia were over 100,000. Transportation improved apace. On the Hudson thirteen steamers plied between Albany and New York, the fare being \$1.00. Anthracite coal was still little used and the boats burned 1300 cords of wood a week. The journey from New York to Philadelphia took three days, and that from Boston to New York was still a serious affair. Josiah Quincy took four days for the trip in 1826 and a stage coach at that time might take as long as nine days for the same distance.

In 1815, to be sure, the New Jersey legislature granted the first American railroad charter to John Stevens, but because of the success of steamers everybody thought Stevens' idea of rails and cars pulled on them by steam power was utterly absurd. In 1827 the *Boston Courier* wrote a most vitriolic editorial on the economics of the foolish proponents of a railroad from Albany to Boston, and the idea that a railroad from Spring-

field to Boston would carry nine people each way per day was treated as fantastic. It was a typical display of an attitude common throughout history.

Meanwhile the camphor lamp remained about the most advanced form of domestic lighting. In 1816 Dr. Kugler installed gas lights in Peal's Museum in Philadelphia and advertised it as an added attraction to the curiosities. In 1820 the Masonic Hall there was lighted with Kugler gas; but the odor angered the public, the candlemaker and oil sellers lobbied against it, and in general it was unpopular. Boston adopted gas for light in 1822, New York in 1823, but Philadelphia, where it had started, had to wait until 1837.

Despite the growth in population, cities were still small and really only large towns. Brick sidewalks were just beginning to be built. Rag and imported carpets were appearing on the still generally sanded floors; cooking was still done at the open fire; amusement was simple, including horseshoe pitching, spinning and quilting bees, spelling matches, singing schools. In 1826 the Lyceum was inaugurated and the lecture course was soon a prolific source of amusement and improvement.

Sanitary arrangements did not tend to get any better with the early urban growth. In 1810 the water closet was invented or at least reappeared. It became popular almost at once, and while it simplified the problem of domestic sanitation it added materially to the municipal one. The municipal sewer was still unknown. Cesspools theoretically were to be emptied at intervals. In practice it proved easier to let the cesspool overflow into the open drains. Resulting disease of course forced the development of the underground sewer.

PERIOD OF EXPANSION — 1820–1865

With 1820 America left the relatively elegant leisure of the Georgian period and entered a more hectic time, one of constant bickering between North and South, of oratory and bombast, of increasing wealth and of an effort to express this wealth with elegance. All of these factors combined with the semi-classicism



FIG. 84. AN AMERICAN GREEK REVIVAL HOUSE

of Georgian architecture to produce the Greek revival. The craze for the Greek temple swept the country and anyone who could afford to build a house or rebuild an old one fell under the spell of the cornice, the frieze, the capital.

The real interests of the people were politics, exploration, and the accumulation of wealth. Art was merely an expression of acquired money, and the portico was the emblem par excellence of taste and financial achievement. Nearly every house of the period was arranged pro-style. Only the exteriors and the detail were affected. Always there were porticoes, pillars, pilasters, full Greek cornices, Greek doors, cast iron grilles, balconies and balustrades, low-pitched roofs, far flatter than climate warranted. The interiors were heavy in detail. Ceilings were very high and around the wall went a full Greek entablature. There were plaster cornices, fireplaces of marble with a mirror replacing the mantel, and wallpaper disappeared in favor of wall paneling painted in flat colors.

Story heights were exaggerated to the point where it was practically impossible to design a proper stair, so the stair hall, a shining jewel of the colonial home, became a thing of utility, the stairs themselves a narrow, steep, uninterrupted run from floor to floor. The porticoes, principally ornamental, were likely to be too high and shallow for convenience. Stone proportions were usually faithfully duplicated in wood and even when these proportions were attenuated it seems to have been because of economy and not of logic. The resultant house was naturally dignified because of the borrowed stateliness of the temple; but as a home it was pompous, heavy, and uncomfortable, and would have been no more familiar to Greece than it was to America. Life in these houses was of a piece with the houses themselves — pompous, striving, heavy, uncomfortable.

In strong contrast, however, to the straining for culture which typified the North of the period, there remained in the South, until the Civil War, a life which was perhaps the most leisured and elegant this nation has ever known or may ever know. The well-to-do Southerner was relatively unconcerned with the de-

veloping hustle and bustle of the North, and his life reflected this unconcern.

Two economic theories were here in conflict — the industrialism of the North and the slave-owning agrarianism of the South. Long before the Civil War demonstrated the fact, the Northern theory had won. The Northern manifestation of domestic life, therefore, is the one which has had the greatest influence on the subsequent American home and the one which we must stress in this study.⁴ It would, however, be wrong utterly to neglect the post-Revolutionary life of Virginia and particularly of the Deep South, in any consideration of the history of the American home.

This life was in many respects unreal even to those who lived it. It was a curious combination of feudal existence and the life of the cavalier. The estate was the manor, the "big house" was the manor house, the slaves were the serfs and villeins. Around the family home clustered the cabins of the slaves. These slaves were on the whole well cared for — economic arguments dictated this even when humanity did not. Some were even freed. Those attached to the house had relatively easy tasks and enjoyed the domestic service and their rather intimate relations with the family. Those who worked in the fields lived a harder life. But all were watched by the master with a paternal eye. Just as the lord of the manor in the Middle Ages often cast an interested glance at the wives and daughters of his serfs, so too the master in the South did not always disdain relations with his slaves, more intimate than those of master and servant. On the whole, the master of a slave estate lived a definite feudal life and was subject to many of the same obligations of "noblesse" that governed the conduct of the lord of the manor.

Superimposed on this medieval organization of society was a romantic code of chivalry almost drawn from story books. This code required that all Southern gentlemen be gentlemen,

⁴ Southern architecture had a great influence on subsequent American domestic architecture and still has. But here we speak primarily of a method of living.

all Southern ladies, belles. "All the brothers were valiant and all the sisters virtuous." The influence of D'Artagnan and Sir Walter Scott was abroad and life partook not a little of the nature of the cape-and-sword romance, with elopements, duels, and other affairs of honor cropping up incessantly. In many sections the first feuds were between families of the highest rank who lived at peace for many years, met each other formally at the ball or the levée, and then suddenly ran amok. In view of the times, these traditions were rather ridiculous and represented a youthful state of mind on the part of those who held to them.

For culturally these families were very young. During the latter part of the eighteenth century and the first two decades of the nineteenth, Virginia was easily the center of North American culture. This intellectual superiority spread south as far as Charleston. The Jefferson, Madison, and Lee families all are good examples of a noble domesticity combined with a true culture, spiritual as well as physical.

Perhaps the life was enervating. Perhaps culture was too easily come by. The phenomenon has been repeated since. The scions of cultured fathers became less and less interested in mental superiority, more and more in physical charm. By 1820 this tendency had fairly crystalized.

In so far as culture is indicated by good dress, clean manners, elegancies of the table and the drawing room, the great families of the ante-bellum South were cultured. In so far as culture is manifested by intellectual comprehension, by admiration and understanding of the great arts, by reading and study, and intelligent discussion of abstraction, the great families were juvenile. Even then they afforded a refreshing contrast to the struggling ambitions of the North. The North was inchoate. It had not defined its goals. The South was coherent. It had achieved what it wanted and sought nothing more.

While some of the manners of the code were artificial, none the less there were nuances of beauty. Poverty was in itself no disgrace. A man of good blood and breeding remained one even

when economic force prohibited the physical manifestations of elegance. He was still received among the best families as one of them. This social concept remains to this day in parts of the South such as Charleston and also in certain limited sections of the North such as Boston or Philadelphia or Baltimore. Again the Southerner placed his woman on a pedestal and kept her on it.

Lest we seem to overlook the fact that the cabin of the slaves was squalid, that the South was full of poor whites who lived an empty and unpleasant life, it may be said at once that on a statistical basis the people who operated the plantations were not a great force in the South. None the less, it is their domestic life which set the key for Southern life.

We have already discussed the general economic and social relations of the various classes of Southern society. It remains to point out the characteristics of life in the big house. The house itself was large, rambling, and comfortable — brick in Virginia, wood in the Deep South. The architecture was simple and good, in large measure Georgian, with a liberal sprinkling of Jeffersonian-Palladian and a Greek revival which escaped the excesses of the corresponding Northern movement. Within the large, high-ceilinged rooms the furniture was substantial and often beautiful. At night in the flickering light of many candles, the old tables and chairs handed down from generation to generation displayed their beautiful patina to best advantage.

Life during the day consisted of leisurely managing of the estate, of hunts and social intercourse. At night the ball (which of course did not occur with literary frequency) was typical. Here the brilliantly dressed dandies and the belles enjoyed themselves in a cavalier way, often retaining the dances of an earlier and easier day. Southern hospitality was traditional.

The kitchen was one of the most important adjuncts of a Southern establishment. Characteristically detached from the main house and presided over by an old mammy who, without records and under the instruction of the mistress, produced

fabulous dishes for the consumption of large dinner parties, the Southern kitchen is responsible for many of the most significant and characteristic gastronomic delights which are native to America.⁵

The very names are evocative. Southern breads were famous — Alabama beaten biscuit and corn pone; Georgia crackling bread; Maryland hominy bread; Mississippi flannel cakes; hominy waffles, Sally Lunn, and Philpy⁶ from South Carolina; Sally Lunn, spoon bread, and waffles from Virginia. Eggs were not subject to elaborate treatment but the baked oyster omelet of Alabama will be remembered. Soups were famous. In addition to the gumbos of Louisiana, North Carolina Brunswick stew, Tennessee corn cob soup, and Virginia crab soup are worthy of mention. The Gulf and Chesapeake Bay States were interested in fish — Alabama fish soufflé and fish pudding;⁷ Florida redsnapper, cracked crabs; Maryland shad roe, pigs-in-blankets,⁸ stuffed crabs. The baked Virginia ham has become an American byword. Southern cookery perhaps reached its heights with poultry and we may relish the remembrance of Alabama brown chicken stew, Maryland canvasback duck, Charleston chicken pilau, Virginia fried chicken with cream gravy and mush.

Other names are less familiar. Alabama furnished green corn cakes, rich Amella,⁹ Hopping John,¹⁰ curds and cream, lemon scupper;¹¹ Florida, fried bananas, guava soufflé, guspachy;¹²

⁵ Of course the most significant contributions to American cooking were made by the Creoles of Louisiana, whose domestic life also would warrant consideration. However, this Creole life was sharply localized, had almost no effect on American manners and was really the result of French breeding. Inasmuch as we have sharply limited this consideration to the types of American life based upon English descent, such a discussion is beyond the scope of this work.

⁶ A hot bread of rice, rice flour, and egg.

⁷ Sea bass, shrimp, mushrooms, spices, eggs, butter, flour, lemon, tabasco.

⁸ Oysters wrapped in bacon and broiled.

⁹ A highly spiced dish of chopped veal.

¹⁰ Cow peas, bacon, and rice.

¹¹ A light baked pudding of eggs, sugar, and lemon juice.

¹² Salad of tomatoes, cucumber, and green peppers with complicated and peppery dressing.

Georgia, lye hominy, turnip greens with potlicker, Hopping John, molasses pie; Mississippi had her sugared yams, her apple amber with syllabub; Hopping John was common also in South Carolina where interesting food was at a premium and where Richland County orgeat¹³ was popular. Other beverages were not missing, Alabama hot Scotch, Tennessee egg flip and the ubiquitous eggnog, and mint julep.

High respect for women, an elaborate code of honor, an economic philosophy in which wealth was not sought *per se*, a fine family life, paternalism, elegancies of dress and the table, characterize the routine of these story-book people. All of this passed with the poverty brought about by the Civil War and the consistent looting of the remaining well-to-do by carpet-baggers in the first post-bellum days. The vestiges that remain in American life are almost insignificant and on the whole pathetic. A passing phase of American life here achieved a type of living unique in our annals and one that will never occur again.

Meanwhile the struggling North with its inventions and searches for money was laying the ground work for a different kind of American comfort in which the standard was to be more definitely physical. The period was one of phenomenal growth in this sort of achievement and occupied nearly half a century.

Through these forty-five years, amazing strides were being made in the accessories of these houses, which in their appearance were running the gamut of unreal extravagance. This was the age of the increase in the use of coal. In 1820 the entire output of the Lehigh mines was 365 tons. In 1830 7,000 tons were sent to New York for domestic use. But by 1839 Pennsylvania mined 1,000,000 tons and sent to New York 122,000 tons. A large amount of this coal was destined for steamboats but some was for domestic use. The coal grate was for a time more popular than the wood fireplace. In 1836 a wood stove called "airtight" was patented. In 1853 heating stoves began to be common and

¹³ An extraordinary drink of milk, rosewater, cinnamon, blanched almonds, and sugar, served either hot or cold.

the bricking up of fireplaces had commenced. In 1860 the first radiator appeared although in 1866 there was still a great deal of protest against stoves and furnaces. Cellar heat is noted as early as 1830. Thus central heating made the chimney less important in controlling the design of the home.

Lighting meanwhile was advancing even more rapidly. We have already noted the charter for gas lighting in New York City of 1823. In 1835 the lime mantle materially improved the light. In 1840 the first incandescent lamp was made but was not put to practical use. In 1842 a patent on a lard oil lamp appeared; 1859 witnessed the discovery of mineral oil; 1860 the use of chimneys for kerosene lamps; and by 1856 electric light was available for home use, although it was very rare and presumably not as good as the more thoroughly developed oil lamp.

But the most significant development of this period is concerned with the spread of the gospel of the bathtub.

The early origins of this gospel are obscure. Until the time of Millard Fillmore in 1852 the White House itself was bathtubless and our presidents bathed in the Potomac. John Quincy Adams, who seems to have been particularly cleanly, suffered several mishaps due to this inconvenience. Once his clothes were stolen, and another time, trapped in the Potomac by a female reporter to whom he had previously refused an interview, he was forced to speak for publication.

The rest of the country was not so backward as the White House. Many of the southern states had bath houses at an early date. The first real domestic bathtub, however, was revealed to admiring Americans on Christmas Day in 1842 in the city of Cincinnati. A Mr. Adam Thompson, it seems, had visited Lord John Russell in England and brought back with him plans and specifications for a bathtub. This piece of apparatus, encased in mahogany, lined with sheet lead, was built by carpenters and artisans to Mr. Thompson's specifications and in its completed form weighed about a ton. Water was piped from the pump in

the back yard to a tank in the attic whence one pipe led in cold to the tub while a second, passing through the chimney, provided running warm water the temperature of which varied with the degree of fire on the hearth. When Mr. Thompson led his guests to the exhibit at his Christmas party he allowed them all to guess its purpose — after all had given up, he gave a partial demonstration.

Meanwhile opposition to the bathtub was crystalizing. It was denounced by the clergy and condemned by the doctors as a menace to health. None the less it began to be more common despite Virginia taxes of \$30.00 per tub per annum and Massachusetts legislation against bathing in winter unless specifically sanctioned by a physician. About the same time as Fillmore installed his tub in the White House we find a New York hotel advertising that it has just installed a bathtub. By 1860 the best New York hotel had three.¹⁴ The phases through which the tub passed to the almost Oriental splendor of the present appliance are worth recalling. After Franklin's slipper bath¹⁵ there came in rather rapid succession the sofa bath with a raised seat at the end, the model with a bulbous enlargement at one end for stout bathers, the sea bathtub designed in the shape of a wave, and the rain bath which provided a bucket of water hoisted onto a ledge above the bather and tipped over onto him, the contents passing through a perforated pan en route.

Later, esthetics were omitted and practical considerations were sought. Fitting well with the iron animals and cannas of the lawn were the tin tub with a wooden rim,¹⁶ the painted and galvanized tub. The porcelain enamel tub with wooden frame, the steelclad all-copper tub, were more direct predecessors of our present porcelain tub.

¹⁴ Compare with the present typical slogan, "2,000 rooms, 2,000 baths."

¹⁵ A contrivance with a very small opening at the top through which one was barely able to enter the tub.

¹⁶ These tubs, it will be remembered, were usually provided with a wooden seat suspended by rubber handles from the edge of the tub to be used in foot-bathing. They persisted well into the 90's and even the first decade of the present century.

With the advent of the porcelain tub the trail was blazed for the elegance of the modern bathroom.

The rapid acceptance of the bathtub and the earlier water closet naturally set people to thinking about ways and means of removing all the water thus used. Modern sewerage practice dates from the rebuilding of Hamburg in 1843 after the great fire, while the first comprehensive system in the United States seems to have been developed in Chicago in 1855.

The cities were still sprawling and unattractive to the European visitor. In New York in 1850 "pigs rooted in the gutters and cattle were driven in huge droves through the streets, while gentlemen in claw-hammer coats, side whiskers and ruffled shirts sipped their Madeira around tables of polished mahogany . . . and ladies in tight bodices, jewelled toques, high-backed combs, and ringlets, crooked little fingers daintily as they gossiped while waiting for the men to come in."¹⁷

Gangs of ruffians still dominated some phases of city life. Every fire precipitated a fight. Police rebelled against being uniformed in 1853.

One of the first of the long line of English visitors who returned home to write about us gives a picture of Broadway:¹⁸

"The mire was ankle-deep in Broadway, and the more narrow business streets were barely passable. The thing was really droll. All along the foot-pavements there stood, night and day, as if fixtures, boxes, buckets, lidless flour-barrels, baskets, decayed tea-chests, rusty iron pans, and earthenware jars full of coal-ashes. There they rested, some close to the houses, some leaning over into the gutter, some on the door-steps, some knocked over and spilt, and to get forward you required to take constant care not to fall over them. Odd as this spectacle seemed on Saturday at noon, it was still more strange on Sunday, when bells were ringing, and people were streaming along to church. Passing up Broadway on this occasion, and looking into a side-street, the scene of confused debris was of a kind not to be easily forgotten — ashes, vegetable

¹⁷ Train, "Puritan's Progress," pp. 178-179.

¹⁸ Chambers, William, "Things as They Are in America" (London, 1853), quoted in Train, "Puritan's Progress," p. 200.

refuse, old hats without crowns, worn-out shoes, and other household wreck, lay scattered about as a field of agreeable inquiry for a number of long-legged and industrious pigs."¹⁹

Charles Dickens has given sufficient picture of this phase of our life even though overdrawn. There were few clubs. The mania for lectures and instructive performances of the Barnum type was at its height. But amusement on the whole was slight for the people were entirely too seriously intent upon business, too devoid of humor, to develop any high quality of recreation.

Meanwhile the strides in mechanical improvement were tremendous although not accelerated yet to the rate of the twentieth century. The greatest changes were in transportation and communication. In 1834 a locomotive was used to haul gravel on the Boston and Worcester railroad and did three miles in ten minutes with ease. Regular passenger service was soon established between Boston and Newton but the speed of eighteen miles per hour was reduced by the directors as a concession to public safety.

The decade 1850-1860 witnessed the invention of vulcanized rubber, the type-revolving press, the sewing machine, the harvester, while the next two or three years saw the fire engine, the fire-alarm telegraph, the breech-loading rifle.

Factories developed rapidly, particularly in New England. On the whole the condition of labor in the United States was never as bad as in the English factory towns, the American laborer being paid more and conspicuous poverty being absent, as was noted by more than one European visitor. But even in this country the earliest mills were unsanitary places and the hours were long, from thirteen to fifteen. Child labor was common and in 1832 "children" constituted two-fifths of the total employed. The result was a serious slum condition of which we may choose a sample from New York. As early as 1834 the City Inspector had complained that bad housing was causing high death rates. His successor repeatedly reported overcrowding

¹⁹ The newspaper strewn litter of a New York street, particularly Broadway, is still notable.

and lack of sanitation, frequent epidemics of yellow fever and cholera, smallpox and typhus fever. Finally in 1857 the first legislative committee was appointed to investigate conditions. A detail of police protected the committee on its visits. It penetrated to "localities and witnessed scenes which in frightful novelty, far exceeded the limit of their previously conceived ideas of human habitation and suffering." This committee's report furnishes gruesome reading:

"One room, 12 feet by 12, in which were five resident families comprising twenty persons, of both sexes and all ages. . . . Dim, undrained courts, oozing with pollution; dark, narrow stairways, decayed with age, reeking with filth, over-run with vermin; rotted floors, ceilings begrimed and often too low to permit you to stand upright; the windows stuffed with rags."

The committee goes on to describe a lodging house at 17 Baxter Street, where rent was sixpence to a shilling a night with three occupants to a bed and no distinction as to sex. On the upper floors twelve families totalling seventy-five people lived in twelve rooms. The only access to another tenement at 39 Baxter Street was an alley the widest portion of which was two feet, the narrowest nineteen inches. Eight years later the Council of Hygiene and Public Health reported in New York that 15,000 people lived in cellars, many below sea level, with water, sometimes sewage, constantly standing in them. They found a mother with a new-born babe lying on a bed elevated with boxes to keep it above the water. In these sections garbage was still thrown in the streets and pigs and goats wandered about as scavengers.

It is not the intention of this book to go deeply into slum conditions. There are ample reports on these horrors. Suffice it to say that conditions such as described here persisted well into the twentieth century and that only in very recent years have the labors of many earnest people borne significant fruit.

PERIOD OF STANDARDIZATION — 1865-1918

After the Civil War changes in the externals of American life became even more rapid. The first decade was one of great corruption, loosening of morals, and instability; but thereafter the country settled down to unite and standardize. Today we

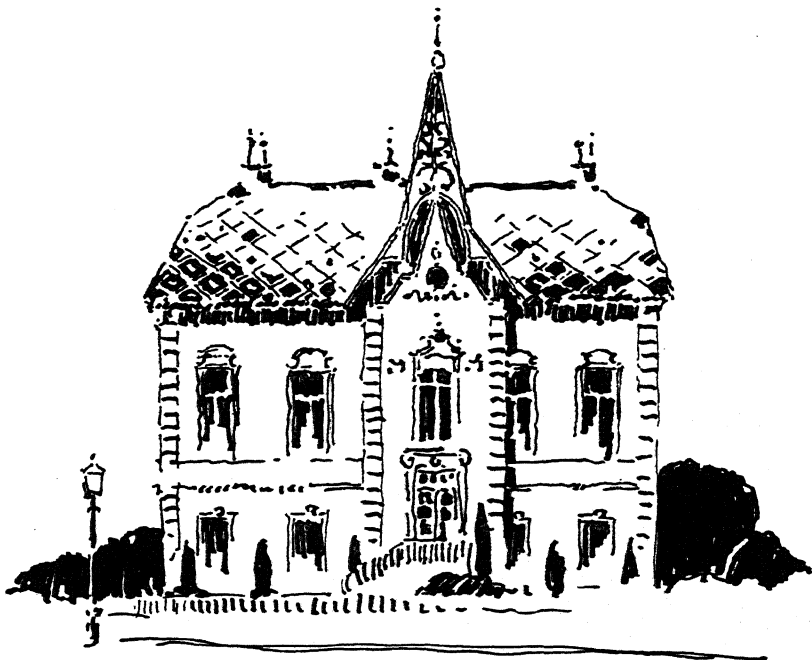


FIG. 85. AN AMERICAN PSEUDO-GOTHIC HOUSE CIRCA 1870

have a unanimity of mass thought and act unparalleled in the history of the world.

Prior to the invention of the automobile in 1893 bicycles were largely used. Such streets as Fifth Avenue, New York, had three-foot lanes of asphalt near the curb for bicyclists. As late as 1875 hitching posts and horse blocks were common in the great eastern cities and these persisted in western towns well into the twentieth century.

In the kitchen, the house was affected by the invention of a process of manufacturing aluminum ware in 1885; the ice refrigerator in 1890; enameled ware in 1895; gas and electric stoves; electric refrigerators and power mixers, grinders, etc., for the home. Canned and packaged food eliminated a large amount of kitchen labor. Clothing began to be made elsewhere, men's suits first. The Howe sewing machine was put into domestic use in 1846. The electric sewing machine came into the home; but the trend was to the manufacture of all clothing outside, and the purchasing of ready-made at retail.



FIG. 86. AN AMERICAN "CARPENTER" HOUSE, CIRCA 1900

Clothes washing became easier. In 1876 a hand-operated domestic washing machine was put upon the market, and in 1909 the development of the power washing machine and electric iron greatly simplified the work. Nevertheless there was a growing tendency to send all but the finest articles to a commercial laundry, where washing, bleaching, ironing, and pressing are done on a colossal scale.

The vacuum cleaner, invented in 1900, replaced the somewhat ineffective and inefficient carpet sweeper and is now almost universal. At the same time the use of new flooring materials such as linoleum decreased the work necessary on floors.

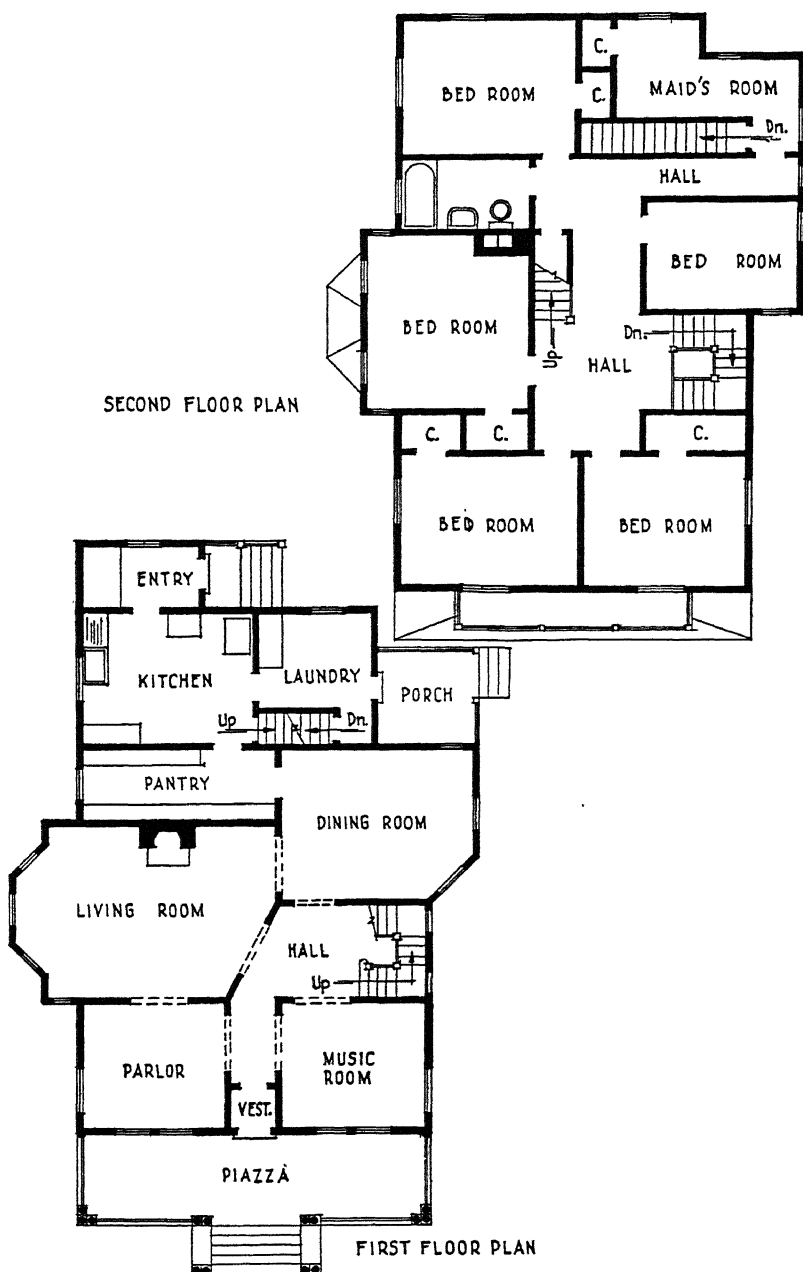


FIG. 87. PLAN, AMERICAN "CARPENTER" HOUSE, CIRCA 1900

In the matter of heating, furnaces were increasingly common. By 1879 gas grates for a time replaced the wood-burning fireplaces particularly where natural gas was available. Nowadays clean fuels efficiently burned provide forced-air or steam or hot-water heat, thermostatically controlled in many homes. The next improvements to be made are in humidification and refrigeration.

In 1876 gas light was the common thing. In 1878 Edison invented the carbon filament, but the development of the Welsbach burner the same year as Edison built his first electric lighting plant postponed the abandonment of gas. In 1911 the tungsten filament appeared and electric lighting began to be universal. Today electric supply is so accurately controlled that it runs our clocks, operates our radio, does our cooking, moves all our power appliances, and serves a myriad of functions.

In 1879 water supply was often still individual and we find filters being put in cisterns. In 1884 pumps were still found in kitchens. Today the house has a hot- and cold-water supply to many rooms, regulated drainage, and the amount of water used per capita is astounding.

Shortly after the Civil War America saw its darkest architectural age. It was the period of parvenu architecture, pseudo-Gothic, pseudo-chalet, pseudo-manor; of Victorian, Gothic, and French Mansard; of broad smooth lawns, iron deer, cannas, and gladioli. A typical house of the period is shown in Fig. 85. Everything was on a high and narrow plan. Walnut was the popular furniture, walnut black as oil could make it. The what-not with collection of shells, arrowheads, and curiosities stood in every parlor. Floors were of soft wood and entirely covered with carpets. Artificial flowers under glass were a usual ornament.

By 1890 domestic architecture began to improve. The excesses of the architect began to be confined to the houses of a few wealthy people who built the Italian palaces and French manors of cities like Newport, where the beautiful old houses

nearby might have served as a marvelous stimulus. The carpenter-builder came back into his own as designer; and the sound commonsense of these men often resulted in houses which, free from architectural pretension and naïve in many respects, none the less gave an air of broad-spreading comfort, and were distinctly not a blot on the landscape. Such a house is shown in Fig. 86 with a characteristic plan of another in Fig. 87. Often Greek columns, mansard roofs and other embellishments were used by the carpenter-architect in a *mélange* that in theory makes a purist wince but the ensemble was by no means bad. Under the driving influence of the real estate subdivision the speculative builder returned to small-scale Norman castles, Swiss chalets, and skintled brick pseudo-English designs in quantities; but the architect of today has learned sense, and is seriously engaged in improving the design of homes, though he leans rather heavily on the past. Today, being less serious about our culture, less striving than the people of 1870-1900, we attain culture and beauty a little more easily.

All of these changes, which we can but indicate, have combined to produce the American home of 1932, which warrants fuller description. However, before treating this subject, it will be well to examine other homes of today which, by our standards, are simpler.

PART III

Modern Homes of the World

PART III

Introduction

WE have followed the evolutionary course of the home as though that course were like a river, ever widening, ever fed by more and more tributaries until it reaches the sea in one broad and unified stream, the port on the ocean being the American home of 1933. We have pursued our way down that stream to the very outskirts of the port.

But now we must pause to remember that the evolution of the home as a whole cannot well be compared with the flow of a river. Instead of having tributaries it has branches. Instead of becoming more unified it becomes more diverse. Undoubtedly the savage ancestor of the Japanese built a house much like that of the savage ancestor of the American. But their civilized descendants have developed homes which differ in almost every essential particular.

In Part I of this volume we have studied some modern homes which can truly be said to have remained crystallized at various points along the evolutionary course. Unfortunately for the coherence of our exposition there are many homes of today in many lands which differ greatly from our own but which represent no such crystallization. By our own standards they may seem more primitive. By the standards of the people who build them they may well seem more advanced. They represent no pause in evolution but merely an adaptation to a different set of ideas and customs.

This is the thing of which every American would do well to remind himself every day of his life. We talk very freely about

the "American standard of living" and compare that of every other nation unfavorably. As a matter of fact we must remember that the bulk, if not indeed all, of the perceptible advantage which our standard of living may have over that of the rest of the world is in things physical. The Frenchman, in opposition to our working man's vaunted high wages and high purchasing power, may point to the apparently happier general life of his laborer. The Italian while bemoaning the fact that his poor do not own many bathtubs may remember with joy, and even remind us, that nearly all his people are familiar with, love, and have opportunity to hear good performances of opera. The poorly paid Czecho-Slovakian wood-carver remains a craftsman as he cuts his little wooden toys and feels to his finger-tips the joy of craft to an extent practically unknown to the toy maker of our land.

We are quite ready as a rule to admit these things but tend to discount them. This study of homes of other lands may serve to enforce the point. Particularly should the proponent of Western civilization and advantages be careful of his ground when he approaches the Orient. Here there are at least three mighty civilizations, as old as or older than any of ours, quite as productive in art, poetry, philosophical thought. The standard, the basis of nearly every activity is different; the result too is different, but no one can say it is inferior.

The people of Bali for instance do not have bathtubs but they bathe freely in mountain torrents. Their civilization, a derivation from the once elaborate culture of Java, is today simple but apparently almost universally happy. Who can say that, free from the complexities of our existence, they live an inferior life? On a higher scale and one comparable for its standards with our own, we shall find the house of Japan quite as complete a working mechanism for its environment as our own, and after studying it carefully may come to feel that any westernization of it would be a tragedy. Finally, on the spiritual side, has any Westerner really the ability to comprehend, much less to enact the magnificent spiritual spectacle of Indian "non-

violent resistance"? If at any point in this portion of the work the homes of other people are compared with our own, this comparison in no way implies disparaging criticism, for the perspicacious reader can at once observe many advantages of their methods of living.

Although our comparison of the flow of evolution with a stream was somewhat inept it perhaps can be corrected with no great stretch of the imagination. At the beginning numerous brooks of thought flowed together as tributaries to form a river. This river flowed through the lands of the foraging, hunting, fishing, hoe, and pastoral cultures, towards the sea. But as it reached the sea it became more sluggish and it developed a delta formed of the silt of many different climates, building materials, religions, traditions. Through this delta the river took many different courses to reach the sea and these courses spread far apart and traveled through widely different terrain.

If we may thus conceive of the river of home evolution, we have progressed down what, to us, is the main course of the delta; and now, in order to have a clear picture of the mouths of the river, must return to where the other branches leave, and follow each one of these to its mouth. Such a method of traveling a river is necessarily broken. It does not permit of a continuity obtainable if we utterly ignore the other channels. We believe these channels should not be ignored.

Accordingly at this point in our story we turn back and in Chapters XVIII to XX explore the other roads to the sea. There is no particularly logical way to follow these channels, which we must merely pursue arbitrarily. Time does not permit us to linger along their banks but we must proceed in each case to the mouth. And if the reader feels that the continuity of this tale is too seriously broken by this exploration he may turn at once to Chapter XXI and enter his home port, the American Home of 1933.

CHAPTER XVIII

Asiatic Homes

ASIA is a mighty continent and its parts are well separated from each other by great mountain ranges. It is inevitable, with such geographical barriers to trade or conquest and such great differences in soil and climate, that widely different civilizations should have grown up on this continent, civilizations which have no relation one with the other beyond that of a common continental appellation. None the less the geographical grouping seems the simplest and most direct to apply.

In general, Asia contains the Mohammedan civilizations of the West; the wild and nomadic civilizations of the center; the very high and old civilizations of India and China, together with Tibet; the perhaps equally old but less developed Malayan civilizations; and finally the new but progressive Japan, also an old nation but developing, since its opening to foreigners, to a vastly different destiny than was formerly indicated for it.

Of these the western cultures are best reserved for a chapter on Mohammedan homes; those of the center have already been discussed in Part 1. The order here adopted is to discuss first the old and great civilizations of India and China; then Tibet, which is related to these; to pass from these to Japan, which is treated in great detail in view of its marvelous development of the home, with a side glance here at Korea and the Ainu; and finally to give very brief attention to the Malayan culture.

INDIAN

In India the art and science of building was very carefully worked out for all kinds of structures many centuries ago. Architectural and constructional rules were handed down from generation to generation in the caste of builders. These rules were largely reduced to written form about 500 A.D. in the old Sanskrit treatises known as the *Shilpa Shastras* — the rules of the fine arts. There were several such assemblages of rules relating to architecture, the most complete of which is known as the *Mānasāra*, named probably from its compiler. These compilations of architectural knowledge cover not only building but also village, town, and city planning. They go into a wide range of matters in great detail — such items as the choice of a site for different kinds of buildings; how to tell whether the soil is suitable; the depth of excavation for each type of building; the dimensions and proportions of buildings, rooms, doors, windows, structural details, and appurtenances; the structure of foundations, floors, walls, and roofs; selection and placing of beams; drains for rain water. The rules reveal astonishing scientific knowledge and engineering skill. Besides dwellings, the treatise considers the building of temples, palaces, forts, and reservoirs.

There was and still is much religious symbolism and ritual in connection with the beginning and end of the building, and with the forms and proportions of the whole structure and its parts. These symbolic and religious associations are not just an instance of shrewd leaders attaching a religious sanction to rules and customs in order to get them obeyed by every one for a long period of time. Rather they are an indication of the Indian conception of the unity of all life. The religious meaning attached to every detail of life serves to bind them all into an organic whole and to make possible a wiser and healthier individual and social life. Faithfulness to that conception is undoubtedly one of the reasons for the great durability of Indian culture.

About 90 per cent of the population of India live in villages, and about 65 per cent cultivate the soil. Most of them live on level country. Also most of them are very poor and hence must live very simply. We shall therefore first describe a house fairly typical of a plains-dwelling peasant villager who owns or rents the land which he cultivates.

The norm of such a family dwelling is made up of a group of four oblong, one-story, one-room huts, each about twenty feet by fifteen, touching corner to corner so as to form an inner open square or courtyard. There is but one outside door, approximately in the middle of the side of the hut which abuts the street.¹ That front hut is the place for receiving visitors or doing business, and at night it is the sleeping quarters of the men of the family. It may have a little platform or verandah in front of the doorway. The hut opposite to that, across the inner court, forms the quarters of the wife and children and any other women of the family. The hut on one side of the court is for the cattle, and the other for the kitchen and the storage of grain and utensils; the kitchen may be under the same roof as the women's quarters. Often the house has no windows. If there are windows, they are few, small, and set high, and are usually latticed or barred to keep out monkeys.

The walls of the typical peasant hut are of clay, a couple of feet thick; the floor also is of hard packed clay, and the roof is thatch. Such materials are more easily available than any others along the great rivers, where the population is thickest.

The variations from such a type are according to geographical location, occupation, and wealth of the owner, and whether the house is in a village, town, or city. These variations are of material, plan and elevation, size, function of spaces, and kind and extent of ornament.

For example, in the arid regions of northwestern India the walls are of brick or stone, the roofs flat and made of a very durable indigenous cement. In the western Himalayas the walls

¹ In the delta region of the Ganges and Brahmaputra, canals often take the place of village streets.

are of combined wood and stone, the roofs of very large slates. In the plains a poor man will have a single-room hut, the sides of which are only of straw matting. A wealthy man may have a large assembly of houses, approximate duplications in plan of the unit described above, strung together, with several courts and perhaps two or three stories high. His house will usually be of brick and have a tiled roof. Town and city houses are normally several stories high and have stone or brick walls and a cement or tile roof. Except in the hills, wood is used sparingly, being confined mostly to the beams, doors, door frames, and window frames.

Among the Hindu part of the population, which is a large majority, the "joint family system" has been a factor in the custom of reduplicating the above-described unitary group of rooms around a central court. Under that joint family system, after the father died, the property of a family was all held together as a jointly owned unit under the management usually of the eldest brother. The families of the other brothers, being joined by common property interests, tended to live near together. By reduplicating the courts with their assemblages of rooms, each brother's family could have its own apartments and yet all be connected together in a larger group. The joint family system is an important part of Hindu law and social structure, and it probably influenced housing arrangements in many ways not apparent at first sight.

In the western Himalayas the houses have no central court; the cattle are kept on the ground floor, and the family live above them; there is a high verandah at the second story around two or more sides of the house; and the kitchen is up in a sort of attic, right under the roof so that the smoke can find its way out without a chimney. Craftsmen, traders, professional men, and city dwellers usually do not reserve any part of their houses for cattle. In Bengal and adjacent parts of Bihar the rafters are of bamboo and so supported as to give the thatched roof a unique convex curve. This curve, together with the steep pitch and very wide eaves, is wonderfully designed to ward off the

torrential rains of the monsoon in the Ganges delta, and also to protect against the tropic heat.

The average Indian villager is clean in his person and in his house, especially in the kitchen; but the village streets are usually filthy. Probably this is the result of the extreme poverty, together with the economic and social disintegration resulting from the impact of Western culture on the old customs. In the old Indian writings very great attention is given to communal sanitation. In village houses there are no bathrooms or latrines. The people go out to the open fields to attend to the calls of nature, and do their bathing and clothes-washing at the village "tank" or well or a river, if nearby. The houses have no chimneys. The smoke from the kitchen fireplace, or *chula*, has to find its way out of an upper window or through the roof. But as the fuel is not coal but usually in the plains is cowdung cakes or charcoal, there is almost no soot. In cities the sanitary arrangements more nearly approach those of Western standards.

The Indian village builder has an excellent sense of proportion and of material and structural fitness, and great skill with simple, rude tools and meager equipment. Hence a majority of Indian houses, even of the poorest, have a certain dignity and beauty — more so in the villages than in the towns, for in the towns and cities the indigenous culture has become confused and weakened by contact with the wholly different culture of Europe.

In certain parts of India, such as Gujarat, the Northwest, and the mountain regions, the wooden balconies, doors, door and window frames are often carved with exceedingly complex and beautiful designs and marvelous workmanship. The poor householder of the plains must confine his house ornamentation to occasional colored paintings on the outside walls, a little wood carving, and very interesting patterns made daily with colored chalk powders on the doorstep by the women of the household.

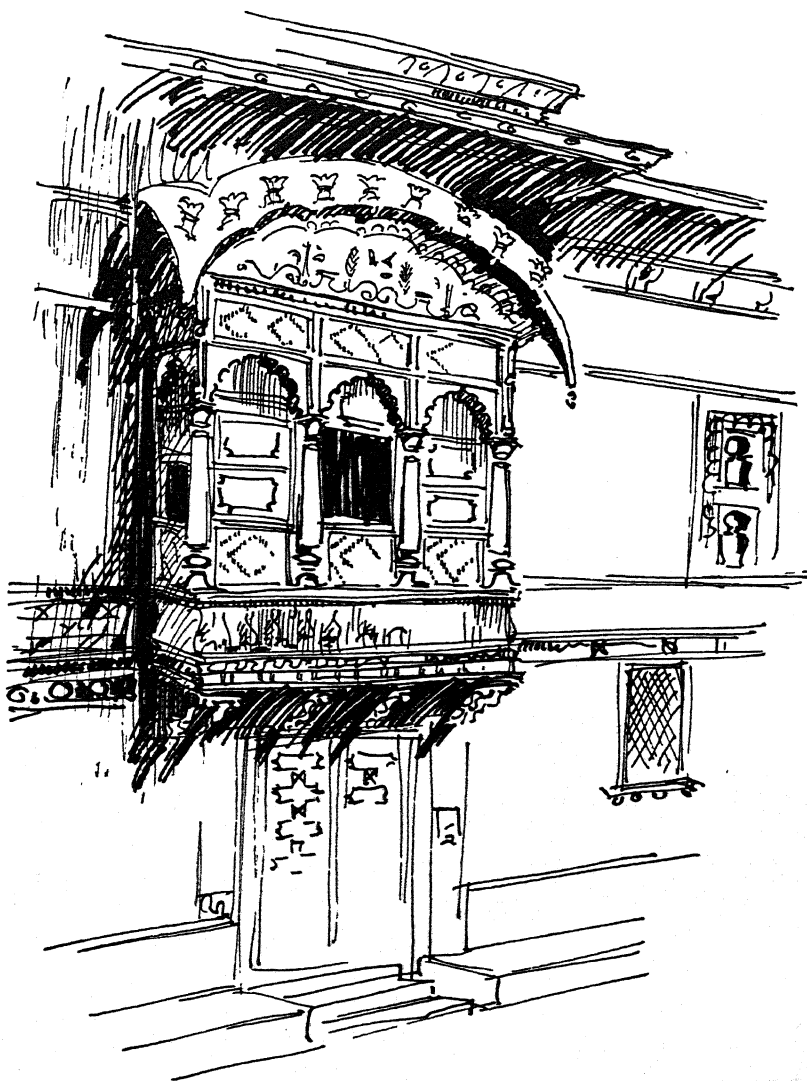


FIG. 88. HOUSE FRONT, LAHORE, INDIA
After Lockwood De Forest

CHINESE

Both as to racial stock and customs China may be rather sharply divided into North and South. In the South are found rice fields, the water buffalo, traveling chairs, and narrow flag-



FIG. 89. CHINESE HOUSEBOATS

stone roads. The North is characterized by the cultivation of wheat and millet, grassless and treeless steppes, the camel, donkey and cart. The Chinese of the South are small, volatile, and irresponsible, those of the North larger of frame, physically more powerful, and in general more substantial. For us the

South is the land of the houseboat, the North that of the larger and more permanent dwelling.

The houseboats fill the huge rivers of the South. On some of the sluggish creeks dividing various sections of Canton these boats, lying side by side, fill the width of the stream and form toll bridges by planks stretching from boat to boat. Besides such use the boats carry goods from one place to another, but the means of subsistence of many of these water squatters is not apparent.

The boats themselves are crude mat-covered affairs affording little shelter. On them whole families are born, live, and die. The craft are packed in rows, and some people have to walk across hundreds of neighbors' homes to reach their own. Nowhere is the huddling instinct of the Chinese more apparent than on the houseboat.

When it comes to building more substantial structures, the Chinese finds himself at a disadvantage. Long ago he thoroughly deforested his land so that wood is rare and cannot be used extensively for house construction or fuel. His building materials vary considerably from place to place. The ceramic industry is very old in China and bricks of course are a common material. One of the most interesting of these bricks is thin and large, perhaps half the size of a tea table. They are stood up, one on the other to form hollow boxes, and each box is filled with earth, one layer being built at a time. Tile is perhaps the most prevalent material of all China and the roofs of all the cities are characterized by the color of their tile which varies from district to district as it does in France. Glass is rare and the paper-filled windows of Peking are typical. As a matter of fact this paper keeps out more cold than would be expected. An unusual type of window is found in Nanking, which as a city appears like a sea of blackish-gray roofs. Much weaving is done in the homes and skylights appear in almost every roof, again often covered with several thicknesses of paper.²

² Paper also has the advantage of being easy of repair. One evening a friend of the writer found himself too hot in a Chinese room and complained

The materials of construction naturally vary with the wealth of the owner. Mud huts or bamboo shacks are most common and may rub elbows with a brick house with black ebony carvings and a green glazed tile roof, as the districts of residence of rich and poor are not at all sharply delimited. Moreover it is by no means always easy to tell from an exterior what the house is like inside.

Although the homes may vary greatly in their quality, the people inside have much the same customs, and the house follows the same general structure, plan, and architecture. Chinese architecture is evidently derived from the tent.

A trait that puts the Chinese at a further disadvantage with respect to his home is his disinclination to repair. Many temples and fine edifices have been built in China at great cost and with great care; but it is almost universal testimony of observers of Chinese *mores* that they have never caught a Chinese in the act of repairing a building, so that the finest are doomed to rack and ruin at a relatively early age.

One-story houses are the rule throughout China. It is considered the height of impertinence to live in a house which is higher than the wall of the town and if more rooms are desired courtyard is added to courtyard.

The typical plan of a small house consists of three rooms in a row. A door leads to the center room, which serves as a reception, parlor, dining, and general living room. Opposite the door, against the wall, there is a square table with a straight-backed chair, while stands with chairs occupy each side wall. Inside the doorway of every courtyard is a screen demanded by a tradition holding that devils cannot pass around corners (Fig. 90).³

Partitions, if of adobe, are the same as exterior walls. If the house is of brick of middle or better class the partition may be

to his guide who promptly thrust his fist through the paper pane. In the morning examination showed that this had often been done before, a new pane being simply pasted over the opening.

³ The presence of this screen forces every house to have a court, but many of them are very small.

paneled four or five feet from the floor with a lattice to the ceiling, papered with thin white paper with painting in each panel.

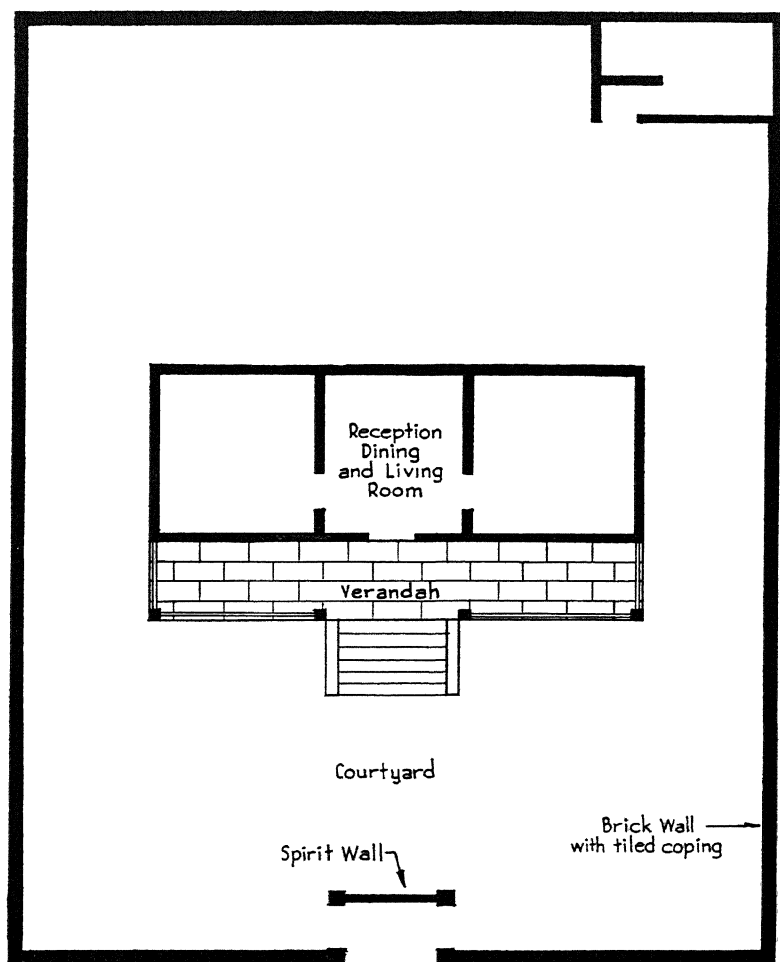


FIG. 90. PLAN, TYPICAL SMALL CHINESE HOUSE

The ceiling itself is in squares eighteen to twenty inches on a side, glazed on one side with fishbone or fish-scale dust, pasted on a lattice of broom corn stalks supported on a wooden frame.

The better houses have a narrow verandah in front of this center room, on which the host often receives his guests. The poorer people replace this with a mat awning during the summer months. The end rooms are both alike and ten to fifteen feet square, the south half being built up with brick to a height of eighteen inches to form the famous hard Chinese bed. This bed is often heated by flues from a fireplace directly under it and is uncomfortably warm as well as hard.

As the family or its wealth increases rooms may be added but the only one that has a definite function is the kitchen.

The interiors of many of these houses are of great beauty. Chinese taste in art is uniformly good. Simplicity is appreciated and the shoddy is avoided. Ugly exteriors often contain rooms with furniture of sandalwood or teak, draperies of gorgeously colored silks and embroideries, rare porcelain. The Chinese love flowers, but consider it vulgar to display a bouquet and will pick a particularly lovely bloom and set it alone in a suitable vase to great effect.

Doorways in more elegant houses are often circular or leaf-shaped openings covered with silk or cloth hangings and bamboo blinds. Floors vary from mud to wood or tile but are always uncarpeted.

Kitchens are dirty even in the homes of the rich, who pay little more attention to sanitation than do the poor. Fuel is so rare that the kettles are made as thin as possible. The stove in the kitchen consists of an open oven fireplace with brick partitions on which the pots may rest.

In the North even good Chinese houses are cold in winter and hot in summer, smoky the year around, and full of drafts. The windows do not thoroughly keep out wind, rain, sun, heat, or dust, although reasonably effective against cold. The residents often carry little portable stoves or braziers with them from room to room. In many sections, however, a very old system of hot-air heating not unlike the Roman hypocaust is used. On the outside of the house, close to the wall, a covered pit five feet deep and four feet square is provided. Just below the

surface of the ground a row of apertures in the pit connect with a series of copper-lined wooden troughs extending under the stone or brick floors of the house. Coal is burned in the pit throughout the winter and the flue gases escape through the far end of the ducts, which usually are outside the house. Light is furnished principally by bean and peanut oil lamps, but the evening is not very important and most people go to bed at dark or as soon as they come indoors.

Ventilation is by no means popular in China. Even the homes of the rich, which may be reasonably airy, obtain most of their fresh air through infiltration. The poor frankly prefer stuffy quarters and at night shut up all windows and doors, partly of course from superstitious fear of the devil-laden night air. The air around the houseboats is heavy and fetid, while in King-techen, which is a great pottery city with almost no poverty and literally no beggars, the people live in hot dens "succeeding one another endlessly along narrow streets with no breathing-space anywhere even by day" ⁴ and tightly closed at night.

Sanitation also is very indifferent. In Soochow, for example, which is full of canals, the houses sit with their backs over the waters. Into the canals goes all the family garbage and out of them comes the cooking and drinking water. There the rice and clothes are washed and there also the pigs for the butcher shop. To be sure, the drinking and cooking water is almost universally boiled. The custom of manuring the fields with human excreta is well known. Nearly every uncooked vegetable in China carries the germs of typhoid fever. It would, however, be unfair to say that the Chinese have no regard for cleanliness. To take the place of cleaning up men hang signs opposite their houses modestly saying "the man across the street has a cleanly home," or merely the sign "Fu" meaning happiness. In the cities of Shensi it appears that the villagers defy every sanitary law yet survive. In Angking the entire city drinks from the Yangtse.

Bathing is not entirely uncommon although not as prevalent

⁴ Franck, Harry A., "Roving Through Southern China" (The Century Co., New York, 1925), p. 108.

as in Japan and bathrooms are rare. However, it is said of Kaying, the houses of which are extraordinarily dirty even for China, that the coolies take a hot bath every day. In Yunnanfu, moreover, public washstands are provided along the streets, with rows of enamel wash basins and badly worn toothbrushes in tin cups. For a penny one buys hot water and his choice of the implements. As might be expected, vermin are everywhere but the population is apparently immune.

Food of course varies widely. The poor natives of Miao, who are buckwheat farmers and whose houses are the last word in misery, apparently never eat anything but oatmeal gruel, although they are able to dress gaily. Famine stalks through the land at frequent intervals despite the simple wants of the people. The wealthy on the other hand eat unusual foods, which if taken in ignorance are not displeasing to the Western palate. A typical company dinner in the home of a well-to-do man may consist of *sake* and oranges, water chestnuts, peanuts fried in oil and served cold, watermelon seed, uncooked goose eggs four years old, cold salted chicken, salted pork, clover leaf and bamboo forming a dish like spinach, fish with gravy, shark's fin, and a fermented bean curd soup, in the order named.

In various parts of China there are unusual types of homes developed from particular conditions which may be mentioned in closing this section. In Shansi there are a number of villages of pueblo type. Kiehiu is a strangely medieval town of two-storied storehouses with porticos. In Shensi there are many troglodytes, who live in burrows dug in the cliffs like rabbit warrens, which at times are divided into rooms. Along the Yunan trail, which is a very narrow mountain pass, the inhabitants are so crowded by the cliffs that the trail runs straight through the houses and corn is spread in the road to dry.⁵ None the less, the householders close their doors tightly at night and all travel stops perforce.

In summary, the chief characteristics of the Chinese home

⁵ The pigs belonging to these establishments are tied by one leg with a string to keep them from falling off the precipice.

may be said to be: simple plan with courtyard, often lovely interior decoration, a complete disregard of repair, and ignorance of principles of sanitation and ventilation. Besides these the life is affected by a strong herd instinct which causes the population to huddle together as closely as possible, with consequent ravages of famine and plague. Chinese family life is complicated, and the philosophy and religious beliefs behind this phase of home existence are far too intricate to be treated in this work.

TIBETAN

Tibet is the bridge between India and China. The Tibetan lives at an average altitude of 8,000 feet and often as high as 18,000 feet. His land is poor and his summer short, yet he pursues a precarious agriculture. Moreover the land is burdened by a top-heavy form of feudalism in which the rights of the upper lords are clearly recognized but not many obligations with respect to the lower classes. At the top is a tremendous religious aristocracy consisting of lamas of various ranks comprising more than one-fifth of the population, most of whom do nothing of economic value. Beneath these are the descendants of lamas who have not entered the priesthood. Then come small landed proprietors, well-to-do merchants, and traders. The third class contains tailors, carpenters, and masons. The fourth includes coppersmiths, blacksmiths, iron workers, and the like. Below all these ranks and essentially supporting them all is the peasant, engaged in cattle and sheep raising or agriculture. In the lower valleys, barley, peas, wheat, and buckwheat are the principal crops. There is considerable irrigation. Other crops include the few vegetables, radishes, turnips, and wild rhubarb. Most of the farmers are tenants of the great land owners or more usually of the monasteries, and serfdom is common.

Even the wealthy Tibetan lives in what elsewhere would be regarded as definite hardship. The wealthy erect fairly substantial houses of wood and stone, often four stories high, with

large and commodious rooms. The wall structure is either of rubble set in mud three or four feet thick, or else rammed earth with twig and straw reinforcement. The various stories are reached by very crude stairways, often only by ladders of notched logs. The buildings are frequently whitewashed by the simple expedient of pouring whitewash down the walls from above.

These houses are built around a courtyard. Verandahs encircle the first and second floors and often the stairs run only from verandah to verandah, there being no inside connection. The ground floor is used for stables, warehouses, servants' rooms, and kitchens; the residential portion is above, and the master's room the highest of all, as it is deemed injurious to his dignity to have the feet of a servant over his head. A room on the first floor is a lavatory. In the floor of this are some narrow slits through which refuse and ordure are thrown into a room below, where they rest until it is time to manure the fields.

The roofs of the houses are flat; and, since floor construction in general is of logs and mud, the floors and roof are shaky and the latter often leaks. At each corner of the roof hang prayer tufts.

The dining room or guest room may be fairly large. It may be hung with banners or Chinese pictures. The ceiling beams are sometimes supported by painted wooden columns, decorated with figures or even dragons. Such windows as exist have removable frames divided into small rectangles, in which are pieces of oiled silk or paper. In the summer the frames are taken out.

Furniture is rather crude. Boxes are used for storage and, covered with hides, serve as seats. Gaily painted cupboards hold the crockery. Low divans are the principal furniture and these are often covered with rugs of good grade. Each divan is provided with a table for tea cups.

Heating and cooking is done on a yak-dung brazier of iron or earthenware. The more aristocratic families eat Chinese food.



FIG. 91. TIBETAN SCENE

The homes of the peasants are of course much cruder. They build as well as they can with rough stone or sun-dried brick, timber being very rare; but they cannot afford heavy hangings to keep out the cold and have to content themselves with putting on more clothes, in particular a rough dried sheepskin with fleece worn inside, which is let down to the ankles when they retire. The living rooms are furnished with grass-stuffed pillows, a box or two, a loom, a shrine, and a rough low table, although frequently the peasants eat from the floor or the pot.

Peasants apparently eat irregularly whenever hungry, usually twice a day, once shortly before noon and once at dusk. The food consists of mutton or yak which has been frozen and is allowed to refreeze every night, and which is eaten raw and even in a semi-putrescent state. The most important article of diet, however, is Tibetan tea, imported from China in pressed bricks, in which the tea leaves are held together by a small amount of moistened yak dung. A small section of this brick is broken off and boiled three hours in water. Then a huge mass of rancid butter or sheep fat is added with small portions of soda and salt. Barley, parched and ground into a flour, is poured into the tea and kneaded with the fingers into dough balls, which, with the meat and the tea, form the food the year around. Vegetables are very rare and fish and fowl are considered unclean.

On the plains the nomads live in black tents much cruder than a *yurt*. Turves three feet high are piled inside around the edge to break the wind and insulate. The top of this wall serves as a shelf for the household goods.

In Lhasa there is a definite housing shortage. Only the wealthiest families can afford private houses and even many officials occupy apartments in one of the large houses. A typical apartment of four rooms has one door leading to the corridor. The first room is allotted to guests' servants, fuel, and storage. To one side is the kitchen, where the servants of the host sleep. On the other side is a large common room for living, dining, and the repose of the family. Beyond this is a private room for

the head of the family. There is no running water, there are no tubs. Water, indeed, is scarce throughout Tibet except in Lhasa, where there are many shallow wells.

JAPANESE

In most civilized or semi-civilized sections of the world where the population is sedentary we have by now observed that many of the details of the house, such as stairs and chimneys, are similar. The methods of making mud-walled and stone houses are much the same the world over. When we come to Japan, however, we find a house which differs from all the others of the world in almost every respect of construction and use, and it will be desirable to describe it in detail.

The Japanese is dominated by many conceptions of pride and modesty that are foreign to the West and he has entirely different ethics. He has taken freely from the West, and his culture today is a distinct compromise between Oriental ideas and Western physical achievement. His home, however, has suffered little from Western influence. It is quite extraordinary that the Japanese, whose civilization is much younger than the Chinese, should have developed a home far more unique, and better adapted to its environment than that of his neighbor.

The Japanese phrase for building a house means "to raise the roof." The roof is the most important element just as it is in China. Unlike the Chinese house, however, the Japanese house has but few permanent partitions and this flexibility of plan is one of the chief characteristics of the home of Japan. Construction, moreover, is so thoroughly conventionalized that the carpenter builder is almost never given architectural or structural drawings, but builds the house from a roughly sketched plan. The result is as a rule architecturally satisfactory because this builder works straightforwardly and is not concerned with "dolling up" the exterior.

Wood is plentiful in Japan but the great Japanese problem has always been fire risk. In the small villages and often in the large cities the houses stretch in long single rows with few or no

cross streets or lanes. This, with the prevalence of wood construction, has led to frequent and severe fires. The Japanese cannot afford a fireproof house, and certainly not an earthquake-proof house; so he builds one whose very structure is inflammable, easily demolished and in case of earthquake not likely to be dangerous. Fires are quite generally put out by tearing down buildings in the line of the flames, the firemen often playing their feeble streams on the demolishers rather

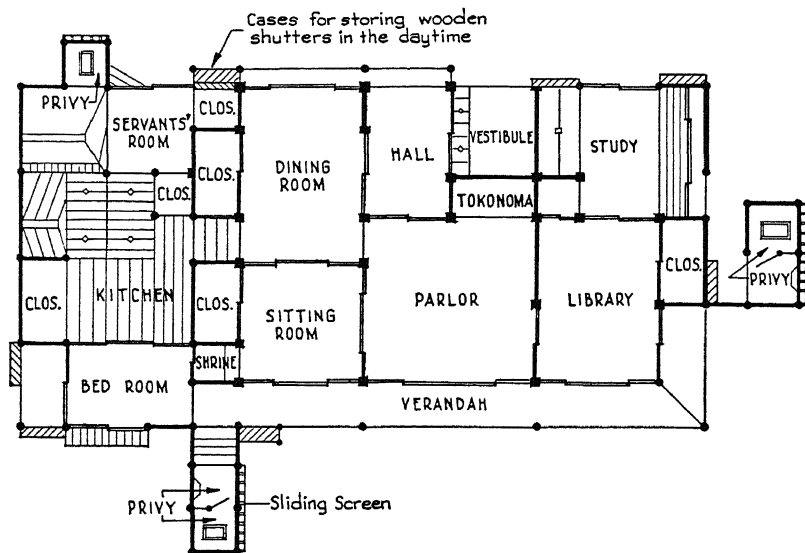
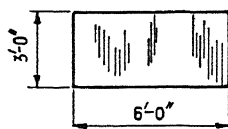


FIG. 92. PLAN, TYPICAL JAPANESE HOUSE

After Morse's "Japanese Homes and Their Surroundings." Courtesy Harper and Bros.

than on the fire. Adjacent to their homes, the better classes quite often have solid one- or two-story buildings of fireproof construction in which their household goods are hastily put when a spreading fire threatens.

The houses in general are unsubstantial in appearance and, being unpainted, suggest poverty to the Western eye. The external walls are of natural-colored wood or black, white, or dark slate-colored plaster. The roof, of moderate pitch, is either lightly shingled, heavily tiled, or thickly thatched. In



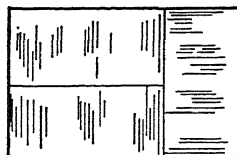
TYPICAL SINGLE MAT



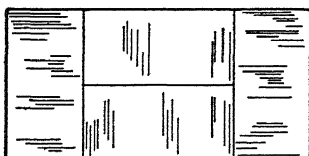
2 MATS



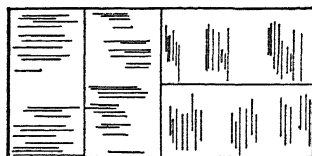
3 MATS



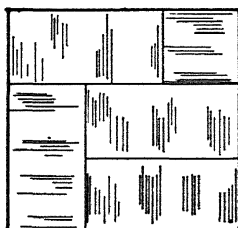
3 MATS



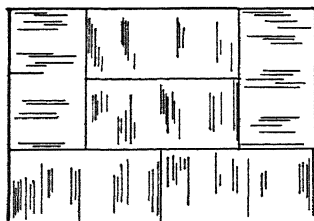
4 MATS



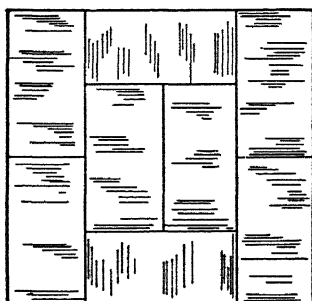
4 MATS



4½ MATS



6 MATS



8 MATS

FIG. 93. TYPICAL JAPANESE MAT ARRANGEMENTS

After Morse

any case the prevailing roof tone is brown or gray; and the chief beauty of Japanese domestic architecture lies in the purity of its simple straight lines, the gentle blending of its browns and grays, and the pleasant contrast afforded by the translucent screens.

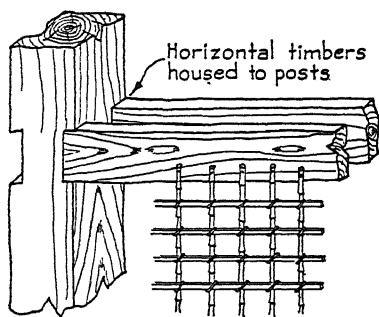
In plan the houses, great and small, are made up of a series of squares or rectangles, the larger houses having a number of attached rectangular wings. Two-storied dwellings predominate in the towns and many have two roofs, the lower projecting from the second floor level. Nearly all houses have a verandah on the side or sides opening to the garden. A two-storied house often has an additional platform extending the whole length of the wall on the garden side and giving access to the second-story rooms. Such permanent walls as there are face the street or surround the kitchen or privy, but these do not number more than half of all the walls. The use of movable screens throughout the interior and on some of the exterior walls means that any given room may be expanded or diminished in size by the moving of the screens and its form and function are not sharply defined. The flexibility is not complete, as the screens fit into grooves in floor and ceiling, so that only certain room combinations are possible. These, however, are so many that a Japanese house cannot be said to have rooms in the usual sense.

A privy is quite generally provided in the houses, usually at one corner of the verandah or sometimes at two diagonal corners of the house. In city houses the kitchen, too, is at one side or the corner, and often in an ell. Frequently, too, it is near the street with a fence around the kitchen yard. A characteristic Japanese plan is shown in Fig. 92.⁶

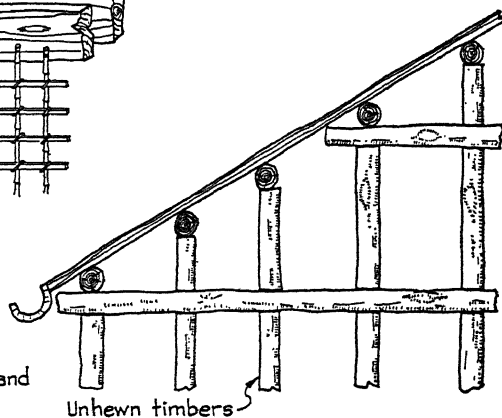
The standard floor covering throughout Japan is a mat of grass which is made in a perfectly standardized size.⁷ Rooms are always multiples of the sizes of these mats and are said to be three-mat rooms, four-mat, etc. The mats are always laid out in

⁶ For many of the illustrations in this section we are indebted to Morse, Edward S., "Japanese Homes and Their Surroundings" (Harper and Bros., New York, 1889).

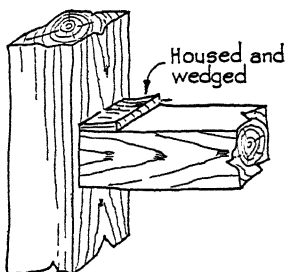
⁷ About three feet by six feet.



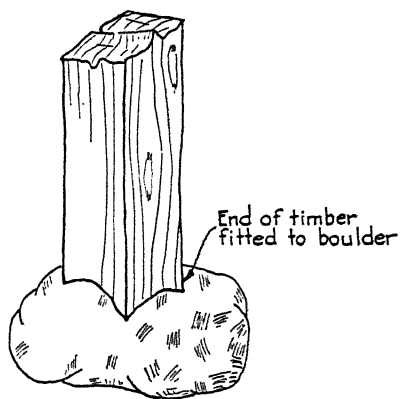
A



B



C



D

FIG. 94. JAPANESE TIMBER FRAMING

After Morse

such a way that the corners of four do not touch. The most common sizes are perhaps six mats (nine feet by twelve feet) and eight mats (twelve feet by twelve feet). Some typical mat arrangements are shown in Fig. 93.

Houses vary tremendously in size. The dwellings of the poor are very small and a three-room house of a poor man would scarcely be larger than one ordinary living room in the United States. Houses in the country which are anything more than a shelter are larger and perhaps more substantial than the city houses and often have ponderous roofs and elaborate ridges. The houses of the North are in general larger than those of the South.

The Japanese house has no cellar or stone foundation. Construction starts by embedding a series of stones around the periphery of the foundation at intervals of two or three feet and tamping these firmly with a maul. On these are set single boulders which are also firmly fastened in place, and project about four inches above ground. These boulders indicate the outline of the structure, and in buildings of considerable size there may be subsidiary rows of the stones which are essentially column footings. Upright wooden posts are then carefully cut to fit tightly on the contours of the stone (Fig. 94-D). In some cases, as in Kyoto, the space between the ground and the first floor is boarded up. The cedar or pine framework of the building consists of these uprights running from the ground, and transverse beams and rafters. The Japanese are careful carpenters and the horizontal attachment to vertical members is either by notching in pairs of transverse members (Fig. 94-A) or by notching and wedging (Fig. 94-C). The uprights are located at corners of all rooms and form the abutments for the sliding screens. There is another row of posts along the outer edge of the verandah.

The majority of the horizontal members and the rafters are often unhewn. The roof of tile or the thatch when wet is heavy and requires strong framing. Diagonal bracing is generally unknown but uprights are sometimes braced at the outside by

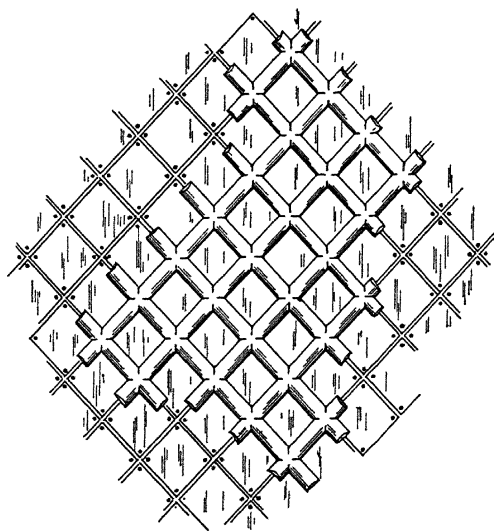
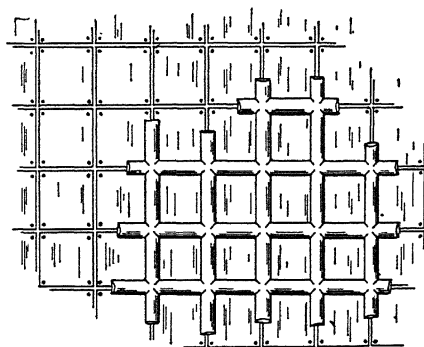


FIG. 95. JAPANESE TILE WALLS
After Morse

angled corner supports. The roof framing looks unstable to the Western eye. (Fig. 94-B).

Permanent partitions are in general of two types. Bamboo strips are nailed vertically to the wooden horizontal bars (Fig. 94-A). Across these, narrow bamboo strips are secured by coarse straw or bark fiber. The whole is then plastered. An alternative method is to nail boards against the bamboo strips and then plaster. In either case the first coat of plaster is of mud and chopped straw, the second of rough lime and mud, and the top or finish layer of clay, sand, and lime.

The construction or rather finish of external permanent walls is rather different. Thin boards may be nailed to the frame horizontally producing a clapboard effect or the boards may be secured vertically with battens. Sometimes wide slabs of bark are placed vertically, being held in place by thin cross-wire strips of bamboo. Plastered walls are also used in the exterior but are not durable, as the Japanese do not use stucco. Another fairly common construction consists of nailing dark gray, flat, square tile to the boards with a one-quarter inch joint and closing the seams with white plaster to form an overlapping joint of about one inch (Fig. 95).

The roof is usually a hip or gable, often with a slight concavity upwards. The framing has been noted. The rafters are roughly boarded and then may be thinly shingled or the whole may be covered with mud and the tiles embedded therein. Tiles do not adhere well to mud, so they often fall off. Straw or reeds may be used for thatch. The gutter is a large bamboo split lengthwise. It is hard to attach a gutter to thatch and usually this is not attempted but a space paved with cobble stones is provided beneath the eaves to catch the drip. Ridges are very elaborate and carefully treated. Some typical arrangements appear in Fig. 96.

Quite as unique to Japan as the mat module is the movable screen which forms most of the interior partitions and indeed some of the exterior walls of every truly Japanese house. These slight screens, made of a board frame with opaque parchment-

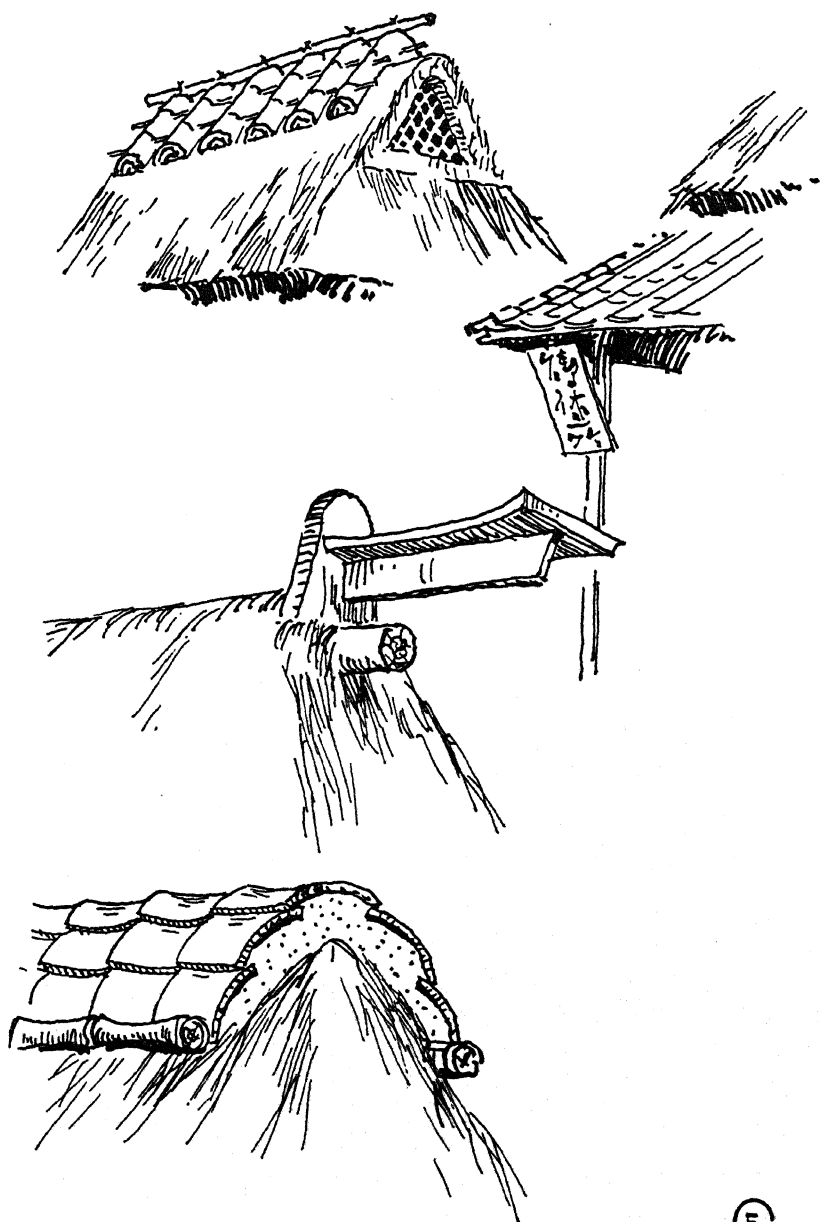


FIG. 96. JAPANESE RIDGES
After Morse

like oiled paper as covering, slide in appropriate grooves in the floor and in beams above, which permit removal of the screen. Both exterior and interior screens allow a diffused light throughout the house.

Windows, largely of translucent paper, made square to slide sideways, occupy a considerable portion of the wall space and furnish excellent illumination. In a city house the windows are often built in projecting or hanging bays, barred with bamboo or square wooden sticks. They are furnished with sliding screens covered with the omnipresent paper. Through them the housewife may bargain with street vendors, who are common and well patronized. Such a window is shown in Fig. 97.

In most houses the doors are similar to the windows and made to slide instead of swing. In the city, several houses have often but one common gate on the street, although in Tokio numerous small tenement houses may be seen each with one overhanging window and one door fronting the street.

Ceilings are low and can be touched with the hand. They are ordinarily of wood left smooth but unpolished and in no case painted, as the Japanese have a great aversion to destroying the natural beauties of wood grain. Often the ceiling boards have been rubbed with the hand to a velvety patina of great beauty. An ordinary ceiling consists of wide thin boards with the edges slightly overlapping. The boards appear from below to be supported by narrow strips of wood one inch or less square in cross section and no nails or pins can be seen. Actually they are hung from above by an ingenious and characteristically Japanese arrangement. Often one sees boards apparently of great length or width, but they are really matched, which is of course facilitated by the Japanese method of cutting and shipping planks.⁸

Stairs are uncommon and the usual method of mounting is by a stepladder of steep pitch. When a stair is found it resembles a set of boxes and is used for cupboards and shelves.

⁸ The log is split and then all the planks from one log are tied together and shipped.

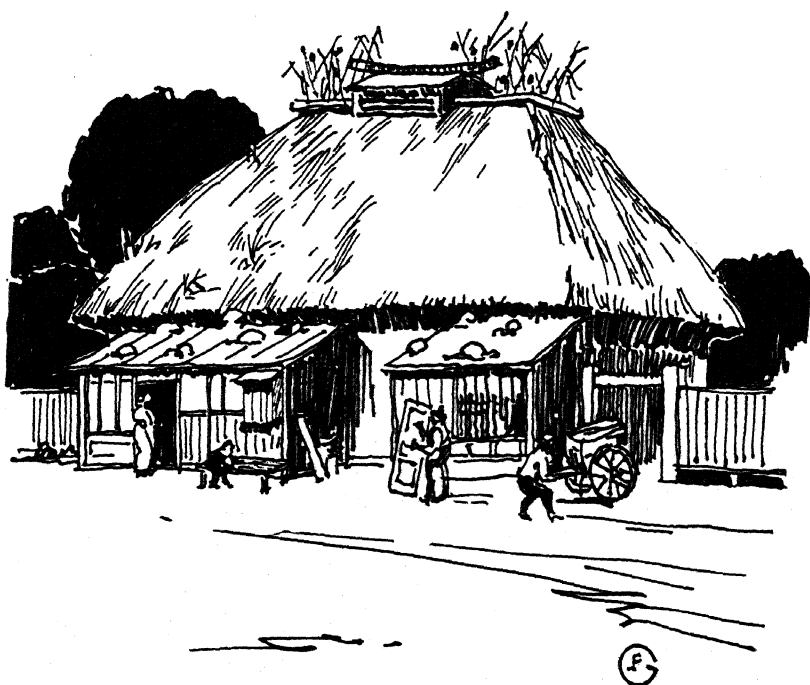


FIG. 97. JAPANESE HOUSE AND WINDOWS
After Morse

In good houses the kitchen is a good and clean room but often a narrow porch or shed with a roof of slight pitch serves. Kitchens rarely have ceilings and their smoke-blackened rafters are exposed. In certain areas of the kitchen the floor planks are removable, the edges of individual planks having notches for

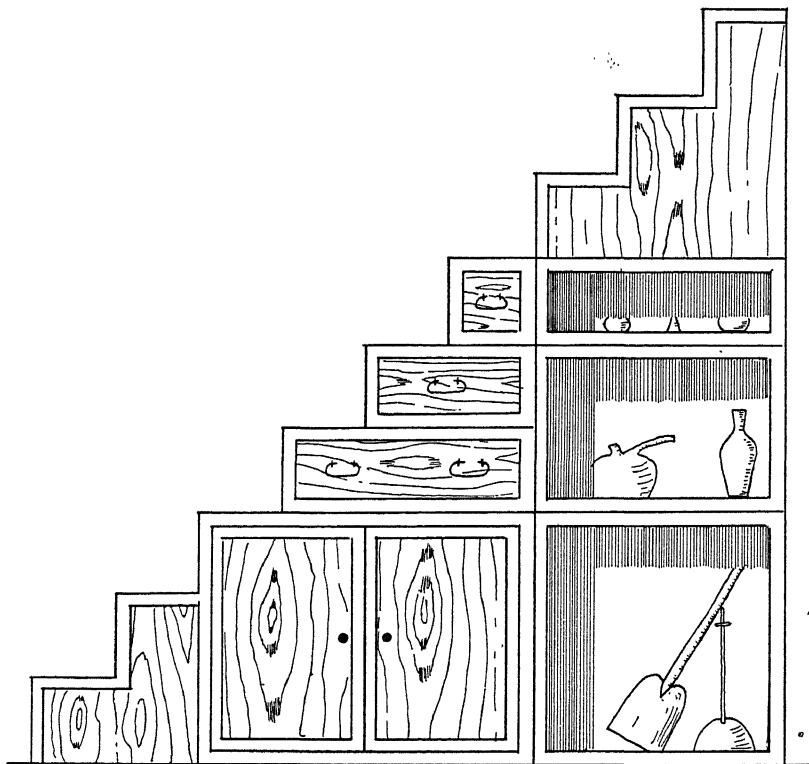


FIG. 98. JAPANESE STAIRS
After Morse

finger holds. Beneath these planks is a box-like space for wood and charcoal. In the vestibule there may be a similar space for umbrellas and clogs but this well is less common among the wealthy.

Few of the rooms have any projections or bays but at least the guest room has a more or less deep recess divided into two

bays by a partition. One of these holds shelves and a low closet while the other is provided with a flower vase or incense burner, usually an object of great beauty that affords an interesting decorative spot in the otherwise very simple ensemble.

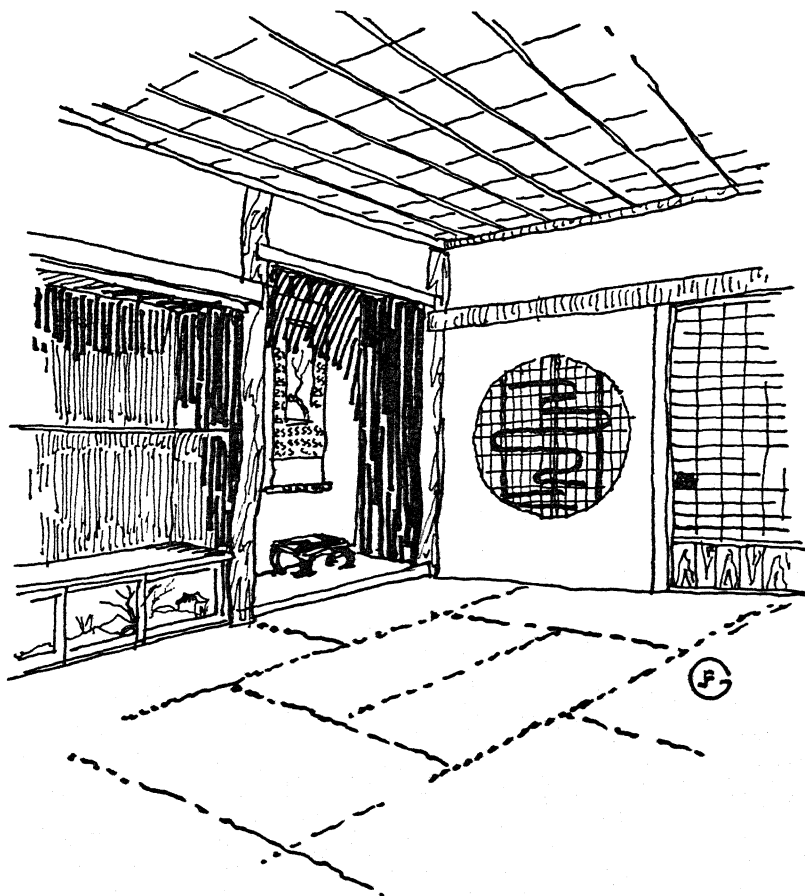


FIG. 99. JAPANESE INTERIOR

After Morse

To a Western eye the Japanese interior is at first rather bare looking,⁹ but the few pieces of low furniture are likely to be of beautiful wood. Less ornate than similar Chinese homes, the

⁹ The Japanese is not a victim of the Western habit of hanging on to every kind of bric à brac or paper that happens into his possession.

Japanese house has beautiful prints, woodwork, and flowers cunningly arranged. An eye for simple beauty is found among much lower classes in Japan than in most other countries.

Beds are made on mats and the pillow, only slightly more comfortable than that of Korea, is a light closed wooden box, flat or slightly convex, which serves as a neck rest and which is softened by a small cylindrical cushion stuffed with wheat shells. This cushion is tied on to the box with a string which also holds the pillow case, a sheet of soft paper folded several times.

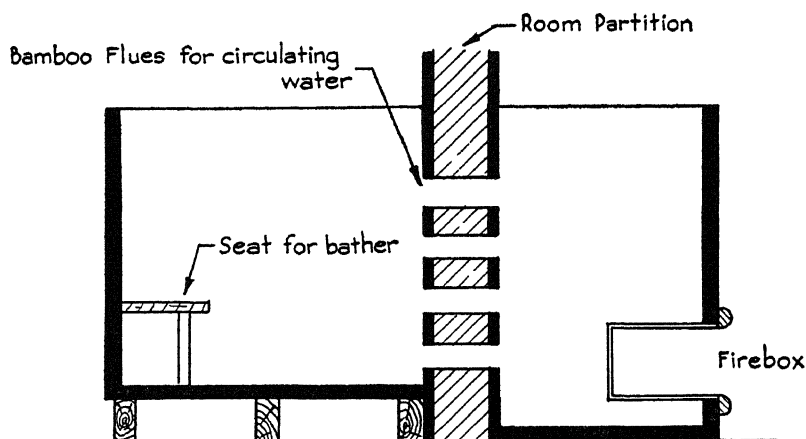


FIG. 100. AN ELABORATE JAPANESE BATHTUB
After Morse

In temperate weather a Japanese house is airy, well lighted, and comfortable. On cold days it is drafty. Heating systems are primitive. Many rooms have a square hole in the floor in which charcoal fires may be lighted, but the portable brazier is also common. The ventilation of the Japanese house is such as to make charcoal fumes less noxious than in most countries where this type of heat is employed.

Until recently artificial light was unimportant and consisted of a sort of Chinese lantern on a lacquer stand, the light source originally being a rush candle, later replaced by ugly petroleum or kerosene lamps and now in some cases by electricity, which

however is poorly adaptable to Japanese construction and sliding partitions.

The Japanese are personally the cleanest of all Orientals and a most important accessory of the house is the bathroom or washhouse. The hot bath is a universal institution and all classes wash the body in extremely hot water at least once a day. The bathing tub is large and deep (Fig. 100). It has a small chamber of copper at one end near the bottom of the tub, the mouth of which is provided with a frame of stone, clay, or plaster. A fire is built in this and transverse bars keep the bather off the hot chamber. Conveniences for other forms of bathing often consist simply of a trough and a portable jug, usually on the floor.

The privy consists of two compartments, one being a wooden or porcelain urinal and the other the *asagaowa*. The latter is a rectangular opening in the floor and in better homes is provided with a decorated cover with an elongated handle of wood. Below is a barrel or earthen vessel which is emptied every few days by a man who operates a regular route and is entitled to keep the excreta. These are in such demand for manuring the fields that in some provinces, such as Hiroshima, if three people occupy a room their sewage pays the rent of one, while if five people occupy the same room no rent may be charged.

Houses of the type we have described are found throughout Japan among the rich and poor, the differences being in quality of decoration and in size, and to some extent in cleanliness. They represent a high standard of housing.¹⁰

KOREAN

Superficially Korean houses are like Chinese and Japanese. Like China, Korea lost its forests years ago and mud is the

¹⁰ However, in the northern islands the Ainu race, drink-sodden and dirty, occupy reed-thatched huts with no partitions and a central fireplace with a smoke hole in the roof. They sit on a floor covered with two layers of mats. For beds they spread planks and use skins for coverings. The Reverend John Batchelor reported that he lived in one Ainu house for six weeks and in another for two months and never once saw any personal washing or even a cleansing of the cooking or eating utensils.

universal building material. The houses are made of adobe brick or odds and ends of stone, completely plastered over inside and out with mud, and seldom painted or whitewashed. The roof, quite low and flat, is usually of rice straw and one writer graphically suggests that the village resembles "a cluster of dead mushrooms."¹¹ The accepted shape of the court is a half square, though homes of the poor may be less and those of the rich a full square.

In any case, the court is wholly shut off from the outside by a screen of woven straw extending to the eaves. The yard is dusty. The outside wall has but one opening, while the inside of the court, that is the side on which the house faces, is little but openings. Across these openings the inhabitants push paper walls or doors as in Japan.

The Koreans squat like the Hindus, and the three rooms of an average dwelling are barely six feet high and little more in the other dimensions. Floors are raised above ground level, made of stone and mud covered with plaster or sometimes wood, and have a carpeting of a native brown paper of a weight between cardboard and linoleum.

The Korean's bed is the floor, his pillow an oak block. His furniture is as scanty as that of a Japanese and his space is even smaller.

The heating system is by the same sort of caliducts as in China. In Korea these extend beneath the floor from kitchen at one end to chimney at the other and therefore operate in summer as well as winter, whenever cooking is going on.

MALAYAN

The civilizations of Malaya are complex and apparently have not been made the subject of such profound study as have those of China, Japan, and India. There is much of grandeur in Javanese art and evidences of a once highly civilized culture in the masks, the ritual dances, the marionettes, the temple de-

¹¹ Franck, Harry A., "Wandering In Northern China" (The Century Co., New York, 1923), p. 14.

tail. Some elements of this culture, which seems to be closely related to the Hindu, may also be found in the neighboring islands of Sumatra, Celebes, and Bali, where, however, the native



FIG. 101. A TYPICAL SIAMESE STILT HOUSE

existence is more nearly primitive. This has been discussed in Part I.

The Siamese in general, like their neighbors of Oceania,

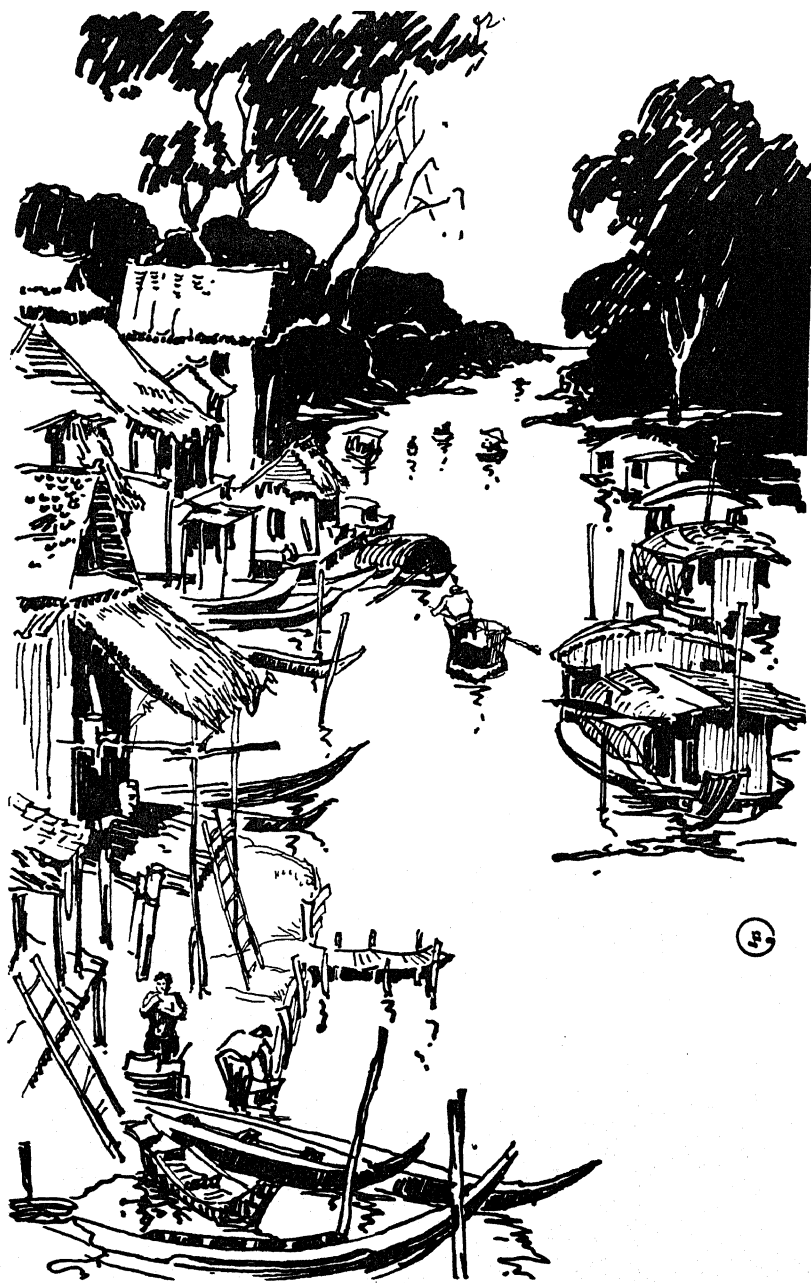


FIG. 102. SCENE ALONG A BANGKOK KLAUNG

build one-story houses on stilts (Fig. 101). The dwelling is kept of one story in deference to the tradition, also held in Tibet, that no one should live over the master. The house is probably built on stilts either as a hangover from the Lake villages or more likely as a method of refuse disposal, of obtaining a healthy floor in a damp climate, and of reducing the incursions of the plentiful snakes and vermin. On the *klawngs* (canal-streets) of Bangkok, the whole house may be a verandah. Such a house is really a platform on poles, on top of which is a rectangular structure of lashed bamboo occupying about two-thirds of the area. The roof is also of lashed bamboo, has a thatch covering, and extends across the entire area, forming a roofed porch in front of the house. The porch is reached by a rough ladder usually pulled up at night. The Siamese are wonderful boat builders and there are many floating homes.

The typical Siamese is happy and contented, with few wants. He is amply satisfied with a simple piece of cloth for his dress, and for his food the rice, fruit, fish, and betel nuts which are to be had for very little money.

CHAPTER XIX

Mohammedan and Kindred Homes

HOMES indigenous to Morocco, Algeria, Tunis, and western Asia are largely influenced by the climate, the harem, and Mohammedanism. A street in old Algiers (Fig. 103) serves to recall the appearance of any street in any of the greater towns. Such streets are narrow and connected by alleys just wide enough for a pedestrian. The houses themselves are of stone or mud, rather well built and whitewashed. They usually are square and have flat roofs. To the street they present nothing but bare walls with a few slits protected by gratings for air or meager light.

Within the houses there are quadrangles open to the sky, often planted attractively. Off these lead the various rooms, including of course the specific women's quarters, which are as carefully delimited as they were in ancient Greece. The whole theory of the Mohammedan house is that of privacy and seclusion with a minimum of display to the world as to what sort of man lives inside, in many ways a concept diametrically opposed to that of the European and particularly of the American.

The Mohammedan homes of Africa are to be found in their advanced form only in the larger cities of Morocco, Tunis, and Algeria. In the more primitive stages of development they have already been discussed in Part I.

Although Turkey has technically quitted Europe with the exception of the city of Istanbul, throughout the Balkan region influence of long Turkish occupation is felt and the homes may



FIG. 103. A STREET IN OLD ALGIERS

more properly be classed as Mohammedan than as European. Many houses of the Osmanlis remain in these sections.

TURKISH

Characteristic of almost every Turkish dwelling, rich or poor, is a courtyard and garden with mulberry and plane trees. Every dwelling, moreover, is completely detached from every other. Wood or half timber is the prevailing construction and a city labors under a considerable fire risk.

A middle-class Turkish dwelling has one side abutting on the street with the upper story projecting; the other three sides surround a garden and courtyard. Marble pillars taken from some old Byzantine house may adorn the exterior. The walls are plastered and colored terra cotta or deep ochre; the woodwork of the sash and lattices is unpainted. The latter form blinds covering the lower half of the street windows of the *haremlik*. The walls of the courtyard are covered with tile.

The house is divided internally into the *haremlik* and the *selamlık*. The latter is used for business or formal affairs, the former for the private family apartments. Between them is another apartment known as the *mabeyn*. The keys of the doors to this are kept by the master but a kind of revolving cupboard called a *dulap* serves for verbal communication and for transmitting food, dishes, and the like from the *haremlik* to the *selamlık* when a meal is served in the latter.

The *haremlik* may also be entered from a separate courtyard. Here the front door opens into a hall with rooms on both sides. The side rooms are for coffee, laundry, stores, sleeping apartments for the poorer servants. The kitchen is in an outbuilding. A wide stairway, uncarpeted but clean, leads from the entrance hall to a large anteroom on the second floor into which all the other rooms open.

The great remnant of Mohammedan culture in its least adulterated form is to be found in West Asia. To be sure, there are millions of Mohammedans in India; but here they have come in contact with an equally strong force in Hinduism, and,

while perhaps not affected by it, cannot be said to dominate the culture. In Arabia, Syria, and Mesopotamia, on the other hand, Mohammedanism controls the culture and it is to these regions that we must look for our principal picture of the Moslem home.

ARABIAN

The hot plains of Arabia are useful both for farming and for pasturage. The population of the peninsula is sharply divided into the settled and sedentary agricultural group, the Arabs, and the nomadic pastoral group, the Bedouins, the latter occupying principally the interior and the northern portions of the country. As is usual the house is characteristic of the sedentary peoples, the tent of the nomadic.

In both groups the organization is tribal. The Arabs are probably the purest surviving type of Semitic stock. Physically they are one of the strongest and most finely proportioned races in the world. In personal habits they are scrupulously clean, and their mental capacity has long been known and recognized. Apparently the chief flaw in Arab character which has prevented the development of a mighty people is the lack of organizing power and of capacity for united action.

There are two characteristic types of dwellings among the Arabs although both are called *beit* — a word meaning a place where one spends the night. Near the coast and in the south the date palm hut is frequently found. It is of different shapes. In the Hejaz and Yemen it resembles a beehive; in eastern Arabia it is a square enclosure with a steep roof covered with matting or thatch work. In either case the construction is that of Africa and the date fronds are skillfully woven and tightened at every crevice so that wind and rain are successfully kept out of the interior. As late as 1900 these huts were said to be obtainable for seven to ten dollars and were durable for a number of years.

In all the towns and cities of Arabia houses of brick or stone and mortar are more common. Many of these are finely built, and their architectural design varies with locality. In Yemen

large dwellings like castles crown the hillsides. In Bagdad,¹ Busrah, and East Arabia the influence of Persian architecture is seen in arches, wind towers, tracery, and verandah windows.

All Arab towns, even the smallest, are walled, but usually only with a wall of rammed earth, and frequently further protected by a dry moat. Within the walls the streets are irregular and seldom parallel. Despite their mathematical lore it is stated that Arabians have no sense of rectangularity; that an Arabian carpenter cannot make a right angle, nor an Arabian servant lay a table cloth straight.

There is great variety in size and elegance of homes but the average is of one or two stories, rarely three, with the flat roof characteristic of all this section of Western Asia. The harem system forces the builder to place a high parapet around this roof, which is used for evening repose and often for the night's sleep. The really characteristic Arabian house presents a bleak front to the street with few and narrow windows and scant or more often no ornament. Whitewash and color are occasionally used but more often the buildings are a light ochre tint, the color of the sun-dried brick of the construction. Baked bricks are almost unknown, and though stone is sometimes used and stuccoed or left plain, the sun-dried brick is most characteristic.

Within the house there is a courtyard. The principal room off this is the *kahwah* or coffee room. This is a large apartment spread with mats and occasionally furnished with carpets or cushions. At one end is a small fireplace or stove, on which the coffee is prepared. This is the room where the men assemble and guests are received, but women rarely enter it if there is any likelihood of strangers being present. One wall of the room must be transverse to the compass direction of *Kibla*,² facilitating prayer, which is an important element in Arabian life. The other rooms of the house are normally small, the walls blank and severe, and free from pictures, in accordance with a religion which frowns upon iconography of any sort.

Even the wealthy Arab lives abstemiously. Cooking is simple.

¹ Properly not Arabia but near-by 'Iraq.

² Toward Mecca.

The staple food is roughly ground wheat cooked with butter, to which may be added thin cakes of bread, a few legumes, boiled mutton or camel among the wealthier, dates, and fruits. The rich also eat rice and fish is plentiful on the coast. A characteristic and popular dish is made of locusts boiled in salt and water, and dried in the sun to produce a taste not unlike that of stale shrimps.

The name Bedouin itself means "dweller in the open land" or "man of the tent." Pastoral life is usually nomadic but this



FIG. 104. BEDOUIN TENTS

tendency is accentuated in Arabia as the water holes frequently dry up. The nomadic life loosens the definition of property, and nomadic peoples are quite generally hardy, warlike, and able to dominate a sedentary population. Thus the Bedouins often play an important part in Arabian military affairs. The tribes themselves are constantly shifting and changing and this keeps Arabia from attaining unity.

The majority of the Bedouins despite their fighting ability are undersized. Polygamy is not common but neither is con-

stancy. The women perform all the domestic business, fetching water, weaving, cooking, making flour, repairing the tent, while the men sit by and supervise the endeavor.

A Bedouin tent is made on nine poles arranged in sets of three as among the Berbers. A coarse goat's-hair covering dyed black is spread over the poles. A white woolen carpet hung from the ridge separates it into two parts. The length of the tent is twenty to thirty feet, the depth not more than ten, the height five to seven. A sheik's tent may attain a length of forty feet. The women and children occupy the apartment to the right of the entrance.

Within the tent a rough mat or carpet is spread on the ground. The furniture is scant and consists chiefly of cooking utensils, pack saddles, water skins, wheat bags, millstones, ropes, halters, platters, a wooden drinking bowl, and arms of various sorts.

Thus the Bedouin home and accouterments are like those of the Berbers. They are reasonably well adapted to their environment but do not represent anywhere near so ingenious a solution of the problem of the nomads as do the *yurts* of Kashmir and Mongolia.

SYRIAN

The homes of the poorer people in Damascus are so like those of Algeria or Arabia as to need no further exposition. The distinction of Damascus is to be found in the homes of the well-to-do, whose rough mud exterior walls give no promise of their interior splendor. Entering a low door and passing through a narrow corridor, often winding, one reaches the outer court, which is used as the master's reception room. Thence a second winding passage leads to the harem, the principal part of the house. Here there is an open court with a tessellated pavement, some fountains, citrous trees, shrubs, flowers, and climbing plants. All apartments open on this court, which, moreover, has on the south side an alcove with marble floor and a raised platform on three sides luxuriously covered with cushions. Some

rooms are brilliantly treated in arabesque, beaten gold, or mosaic.

MESOPOTAMIAN

The homes of Mesopotamia are not far different from those of Syria or Arabia. In all of these countries the influence of Assyria and Babylon is clearly felt. Bagdad is a very hot city, the temperature often reaching 112° at dawn, 119° at noon, 122° at two, and 114° at sundown. The nights are ordinarily cool. This excessive heat leads to one addition to the houses, which otherwise have the characteristic modest, blank exterior, the interior court garden, and other attributes of Moslem homes. This is the *serdab*, a cellar below the level of the courtyard, kept damp by frequent wettings, provided with half windows, over which are hurdles thatched with camel thorn and kept constantly wet. Occasionally the *serdab* is equipped with *punkahs*. This room is occupied throughout the hot day except at dinner, which is eaten on the roof, and during the night. The cellar room provided entirely for cooling is, as the reader will remember, a legacy from Assyria and Babylonia.

CHAPTER XX

European and Europeanized Homes

WHEN we come to the subject of European homes of 1933 we embark upon the most difficult analysis we have yet been called upon to make. History, nationality, and an older culture all serve to differentiate European homes of today from American ones. But, as a matter of fact, the differences of detail in any one country are greater than the differences on the whole between these homes and our own. Moreover, every reader is at least vaguely familiar with the way Europeans live. If we are to confine this chapter to an analysis of major differences we shall have to stop it almost as soon as we begin. If we are to engage in an analysis of small detail we shall at once find ourselves plunged into a welter of minutiae.

As an example of the difficulty, let us consider what the traveler finds in motoring south from Tours in the center of France to Toulouse near the Spanish border. Throughout the region he finds homes in general of brick and stucco, with tile roofs. But he may readily note seven progressively different sizes, shapes, and colors of the tile, changing from a conventional red through purples to a fish-scale silvery gray. He may note the change in brick work from the ordinary European brick to the flat, long, rosy red, brick of Toulouse and Albi. He will see a gradual lessening of the slope of the roofs as a more southern climate is reached. Costumes are much alike these days but he cannot forget the blackness of the Périgourdine dress. From the light food of Touraine he will pass to the deep gustatory

delights of the patés of Périgord, to the heavy cassoulets of Languedoc. Tongues change, customs change, all imperceptibly. This is true of every country of Europe and any attempt to evaluate the details is evidently beyond the capacity of this chapter.

If, however, the student approaches the great capitals of the various countries in the hope that here he will find representation of the civilizations, he is doomed to disappointment. Does any one think for example that Washington is in any serious respect a typical American City? The great cities of Europe moreover, be they capital or not, tend to merge together in appearance. The modern domestic architects Behrens and Mendelssohn of Germany, Dudok of Holland, Le Corbusier and Mallet-Stevens of France, Neutra of the United States, are less German, Dutch, French, or American than they are international. The houses they design offer essentially the same conveniences, about the same plans, about the same sizes of rooms. Their details vary with the architect's taste, but this taste is only in small measure American, French, Dutch, or German. Life in any one of these cities is very like any other. To be sure, each city has its flavor; Prague is not Paris, Barcelona not Berlin, Rome not Vienna. But this flavor is more largely due to an odor of antiquity, to the remnants of old buildings, different forms of picturesqueness, native foods, wines, languages, and entertainment habits than to any serious difference in the bathroom, the bed room, the dining room of the citified Czech, Frenchman, Spaniard, German, Italian, or Austrian. All of these people are beginning to dwell in apartments, to drive automobiles, to use the telephone, to have shower baths. The extent to which they have achieved these comforts is not within the province of this volume and is reserved for the statistical study to follow. Unfortunately, except on a statistical basis it is difficult if not impossible to draw any considerable degree of differentiation between the city homes of the various European nations.

With respect to home life the multifold ramifications are

again too complex to invite our attention. It is impossible to summarize in a word the differences in concept of the marital relation which exist between the English and Germans and ourselves on the one hand and the Latin races on the other. But these differences are superficial and are laid on the common basis of Christian ancestry and tradition. Volumes have been written about them but they are not susceptible of the sort of summary given, say, the customs of the Ba Venda.

In this chapter, then, we shall frankly dismiss the city dweller of Europe on the assumption that in the following chapter, having developed at some length the characteristics of American city life, we shall have sufficiently pointed out what European city life is like, and that the differences in degree will sufficiently appear in the succeeding volume.

If, then, we are to find the real differences between the home conditions of the nations of Europe we shall have to turn to the peasantry. And here, since the life of a French peasant near Avignon may be somewhat Italian while that of one near Lille is partially Belgian in characteristics, national political boundaries may in general be swept away; and we shall take up our study in terms more of physical, geographical, and climatic divisions, and of racial stocks. On this basis and broadly speaking the peasant cultures of Europe may be said to be the Northern, including the Scandinavian and Slavic peoples; the Germanic; the Latin; and the Southern, Slavic or Balkan. Only the first and last of these are definitely unique today.

NORTHERN

It is characteristic of all European countrymen that they build economically and with indigenous materials. The Scandinavian peninsula, Poland, Finland, and North Russia abound in timber, and wood construction is the natural consequence. The cold climate with its heavy snowfalls imposes the need for heat insulation, for relatively large windows to catch all the light there may be through the long winter, high pitched roofs to shed the weight of the snow. Roofing materials are naturally

those of the region, shingles or thatch. A short outdoor season and a relatively long indoor one stresses the importance of interior comfort as more than shelter, and magnifies the importance of the fire or hearth as the focus of the home. Characteristic domestic architecture of the Scandinavian peninsula is recalled by Fig. 105.

As recently as one hundred years ago, nearly all the northern peasants lived in log cabins. They remain characteristic of Finland. The building is called a *pirtti*. It is made of fir trunks laid horizontally, with moss stuffed in the cracks. The walls rest



FIG. 105. A SCANDINAVIAN HOUSE

on a foundation of blocks of granite raising the floor two or three feet off the ground. There is a single room about twenty feet square and twelve feet high. Three or four holes, the width of two logs, serve as windows and used to be covered with sliding wooden panels, which now are generally replaced by glass. About a foot above the floor at one end is the threshold of a wooden door with hinges, latches, and locks of the same material.

The ceiling of planks rests on beams which are higher at the center than the edges. On top of these planks the peasant piles moss and earth and then leaves an air space between this insulated ceiling and the roof. The most common roof is built of

two layers of long thin planks with shavings of birch bark as insulation between the layers.

This construction is quite as common in Russia, Poland, parts of North Germany, and Siberia as in Finland. Also typical of these is the stove which is common in Finland. A six-foot cube of big stones on a thick plank foundation has a cavity called the oven, in which the fire is made of four-foot logs. There is no chimney, so smoke and sometimes flame as well come out the stove mouth. Through the roof a hollow tree stem is passed and this serves to conduct the smoke out of the room after it has reached the peak. The stove is used in part for cooking, being provided with a trough-shaped shelf for this purpose. Its principal function, however, is heat, and the most comfortable place on top of it is occupied by elderly and sick people and children, while sometimes the entire family sleeps and eats on it. When any one wants a bath he sits on the stove and water thrown on the hot stones produces steam in which the bather revels, switching himself with birch twigs, which are supposed to have some medicinal value.¹

The smaller towns of Great Russia customarily cover a great deal of ground and are all laid out on the same pattern. In the center is a spacious square from which radiate broad streets with bad pavement. The middle-class houses in the central part of the town, often of stucco or brick, are painted white, yellow, or pink. These middle classes before the revolution in Russia and those in the Scandinavian countries were very conservative and the furniture was heavily upholstered and slightly musty, recalling our Mid-Victorian period. Such furnishings may still be found in the American home of many a Russian emigré. Any one who has seen indoor photographs of the late Czar or Kaiser in the midst of his domestic possessions has a good idea of a luxurious set of furnishings of this type. In the suburbs of these same towns the houses are of wood. In addition

¹ Steam baths are characteristic of fur-wearing peoples. They were very common in the Middle Ages.

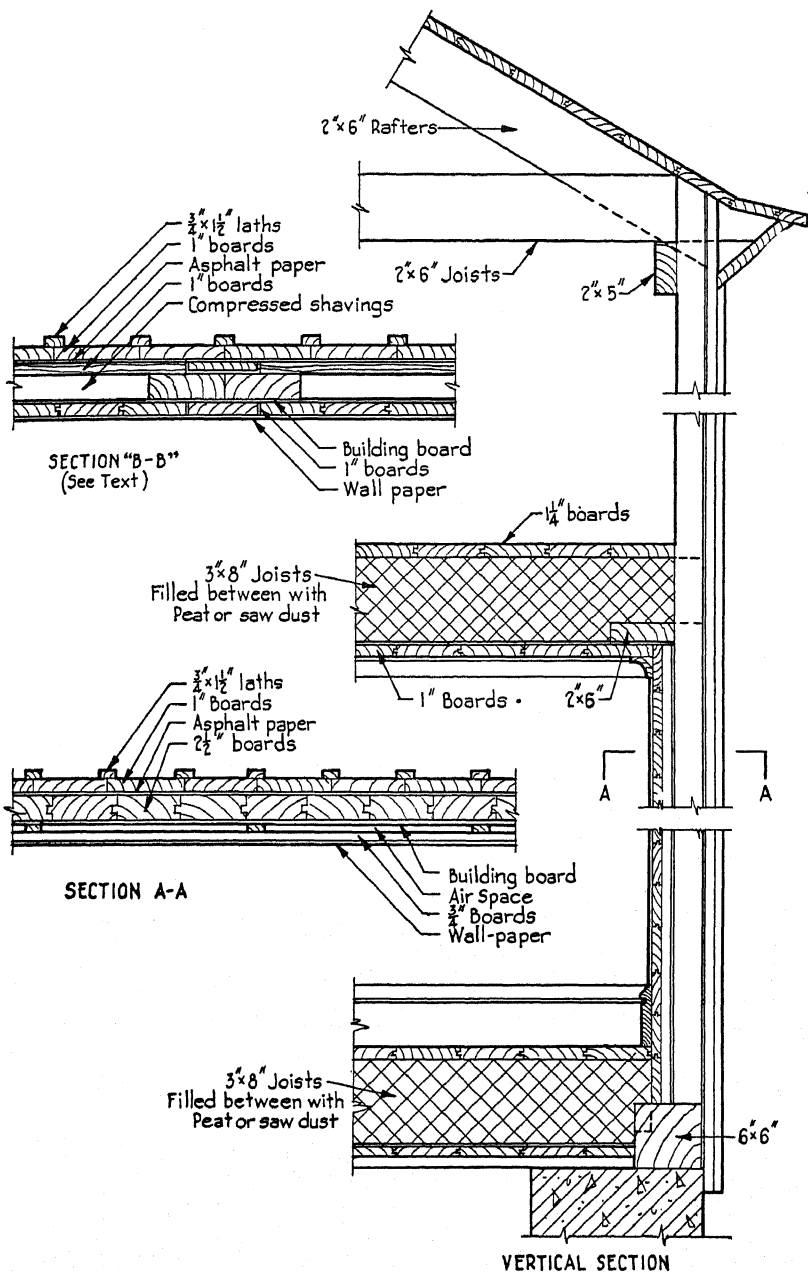


FIG. 106. TYPICAL SWEDISH WOODEN CONSTRUCTION

to their material they differ from those of South Europe in that they stand relatively farther apart.

One further characteristic of nearly all these northern homes is their lack of ventilation in cold weather. The people actually seem to prefer a stuffy atmosphere.

Stockholm and other modern northern cities are of course much changed. Oslo, Stockholm, and Helsingfors are meccas for most up-to-date architects. Before 1924 less than one-quarter of all the new homes built in Stockholm contained either bathroom or shower, and in 1920 less than one-tenth. By 1927, however, more than one-half of those built had this convenience, a rather startling indication of the spread of the American gospel in northern cities.

There seems little reason to suppose that there will be any serious change from wooden architecture for homes in these countries for many years to come, as timber is still plentiful. However, it will be noted in Figure 106 (which should be compared with Figs. 140-143 in Chapter XXI) that Swedish wood construction, for example, is more wasteful of timber than our own. Today the Swedes are beginning to worry about this waste of wood and many ingenious new schemes of construction have been proposed, none of which seems to have greater possibilities than that whose cross section is shown in Figure 106, BB. Smaller houses are becoming more common in all these cities; and the urban working peoples are gradually being better housed, as the bulk of new buildings contain water-closets, electric light, and central heating. The U.S.S.R. also claims great improvements in the housing of its urban workers, which before the revolution was wretched; but the evidence is contradictory on this point.

GERMANIC

The characteristic of the domestic life of the Germanic peoples has for years been solid comfort, free from luxury or general esthetic appeal. Cleanliness has been a fetish. In North Germany timber has been used for construction; but in

Southern Germany, Austria, and Holland brick has been the more usual material. The beauty of Dutch brick and Delft tile is proverbial. Houses in these countries are likely to be larger than those in other nations, better kept, with more conveniences. Clothing is comfortable and practical. There is a great deal of very substantial food, and beer rather than wine is the characteristic drink.

The German farmer has brought so many of his traditions to this land that the standard of comfort obtained by the

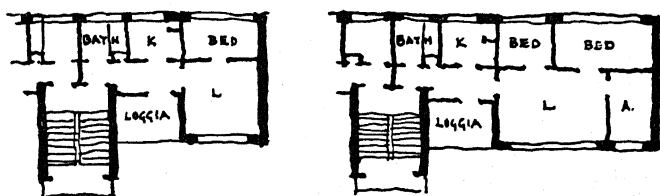
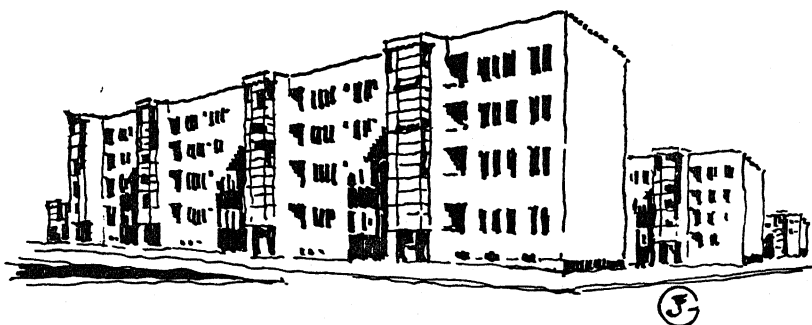


FIG. 107. MODERN GERMAN APARTMENTS

Middle Western farmer of the United States is a fair example of what the German peasant aims at. The Dutch have prized their comfort even more. Neither of these countries has been immune from the penchant for better housing of the poorer classes that has swept all Europe since the war.

In Germany this movement has resulted in houses of considerable practical quality, relatively free from architectural embellishment. Concrete has been a common and popular material. Two such types of housing are shown in Figures 107 and

108. Apartment buildings such as those of Figure 107 may be built to greater heights without elevators than would be accepted in the United States. A characteristic plan provides a living room, one or more bed rooms, a kitchen, and a bath. It may be remarked that the dining room is scarcely ever an important adjunct of a European house of the lower or middle

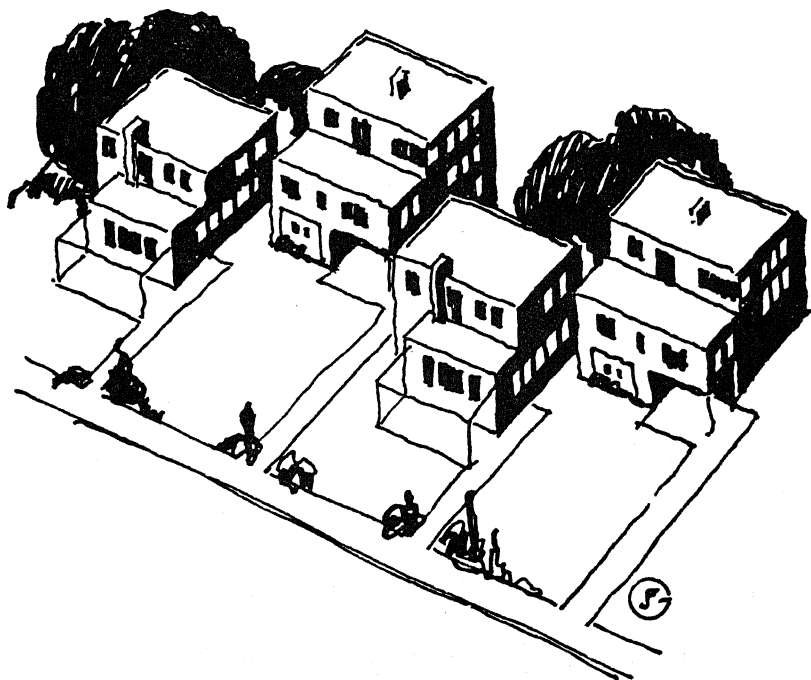


FIG. 108. MODERN GERMAN HOUSES

classes, and that the kitchen is the real center of family life. Here in the evening the soup kettle simmers, the children do their sums, the father drinks his wine or beer, smokes his pipe or his cigarette, and plays his dominoes or checkers, while the housewife sews or knits. Single German houses of the new era as shown in Figure 108 are evidently no more characteristically German than they are French or American. On the other hand nearly all the towns of Southern Germany and notably of

Bavaria contain many old buildings such as the one in Nürnberg here pictured, which still house families in much the old way.

In Holland, where, particularly around Amsterdam, a considerable housing project of real social significance has been developed over a number of years, the architects have refused to abandon their beautiful brick for the new concrete. They

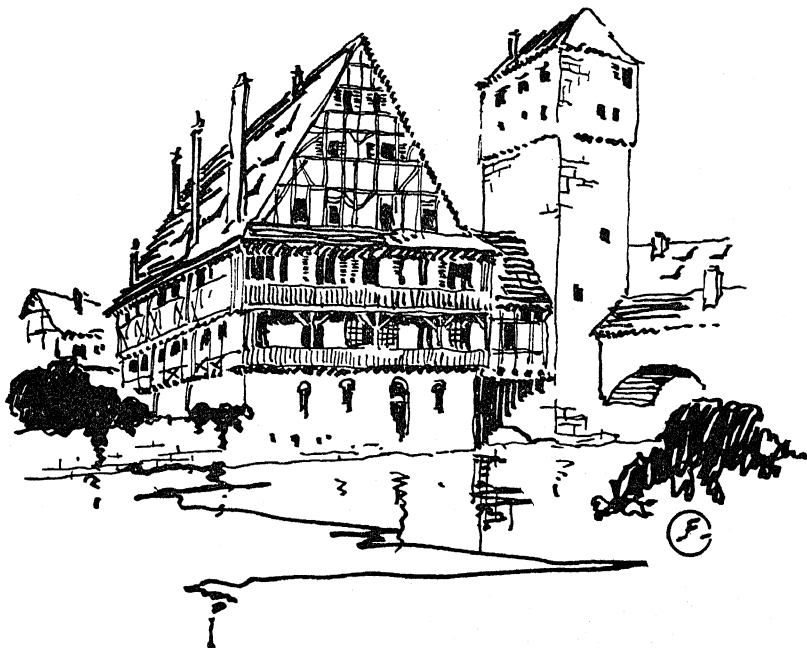


FIG. 109. OLD HOUSE, NÜRNBERG

have sought novelty in the treatment of this brick, and the row of houses shown in Figure 110 is but one example of many interesting treatments they have designed. This architecture may be said to be truly Dutch to the extent that it has confined itself to truly Dutch materials and needs, and has not been copied in other sections of the world. It is lending a new picturesqueness to Holland that in time will replace that of the rapidly vanishing windmill and the now doomed fishing towns

of the Zuyder Zee. These plans, it will be noted, supply a small kitchen and a large living room in which the food is served. There is no bath but there is an interior toilet.

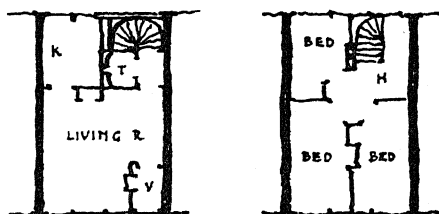
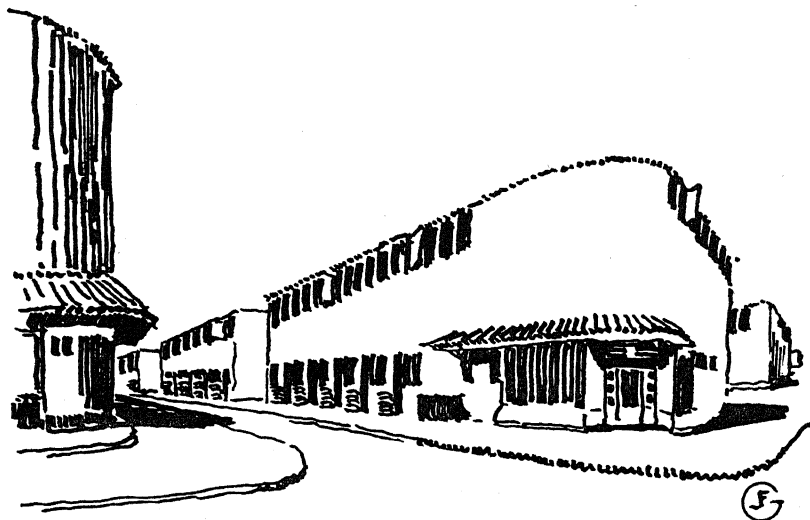


FIG. 110. MODERN DUTCH HOUSES

LATIN

The Latin peasant is not fundamentally very different, be he French, Spaniard, or Italian. He dwells in villages, for he does not relish the solitude of the farm. From the village he goes forth every day to care for his fields. His temperament is more uneven than that of his northern counterpart. He does not demand as much in daily comfort but does want, as antidote, occasional high moments of feasts when he lives beyond himself.

His daily standard of living, therefore, is somewhat lower than that of the northern farmer. He prefers wine to beer, the cigarette to the pipe. He still wears *sabots* in the fields and his clothing is homespun. Coarse bread, soups, occasional meat, eggs, vegetables, and *vin ordinaire* are his principal diet.

His houses of adobe, brick, or other masonry, are usually covered with stucco. He does not mind having a "Dubonnet" sign painted on his façade. A manure pile is often his front yard. Within the walls a section of the house is devoted to chickens or cattle. But the rest of the house is carefully set off from this and reasonably well furnished in the tradition of fifty years ago. Tile is common and is his usual roofing material. The climate is warm, central heating unimportant, and the hearth often does not exist or is used principally for cooking. The roofs of his buildings are of low pitch, his windows small, his walls thick to keep out the heat. A sunnier climate always leads to the use of more color in architecture, partially because flat colors tend to waver and present amorphous lines in bright sunlight. The costume, the building, the life of the Latin peasants are all more colorful than those of the northern farmers; but their comfort is probably less.

The appearance of a French village is doubtless well known to the reader so that it need not be detailed here. He will remember the rows of buildings flatly facing the street, the narrow brick gutter under the walls on either side, the crazy slopes of tiled roofs, the general picturesqueness. He will remember that the river flows through the middle of the village usually in a valley from which streets ascend either hill. In this river stone slabs form a base on which the women of the village wash their clothing. At the base of the hill is the town-well whence they draw their drinking water. There are no sewers, and human excreta and the outpourings of the butcher shop flow down the hilly streets with every rain into the well, so that the water is not safely potable for a foreigner. But the Latin peasant has developed an immunity to the water-carried bacteria of colon and typhoid, and apparently suffers little from this

lack of sanitation. The reader will remember further that in most of these villages are one or two houses of more formal architecture, behind whose tight *volets* live the great families of the town, wealthier people, the notary, the priest, the mayor. Within, these houses are as Victorian as those of Russia, and from our point of view as uninteresting.

The differences in Spain and Italy are those of appearance rather than kind. The illustrations will recall the character-



FIG. 111. ITALIAN COUNTRY HOUSE

istics of Italian and Spanish architecture. These buildings, at first glance, seem large enough to belong to some wealthy individual; actually, however, they are farmhouses with many of the rooms beneath their widespread roofs used for storage or stables.

The Latin influence has spread beyond Europe to the houses of South America, where the mingling with Indian ideas has produced a number of interesting deviations which may be briefly mentioned.

Colombia, for example, is a very mountainous country,

through which the Magdalena River cuts its picturesque way. Its capital, Bogotá, far up the river, was until the invention of the airplane almost inaccessible, the journey by boat often taking a month to cover a distance now traversed in a few hours by air. Along the river the houses are simply built. Four posts, six inches in diameter, and six feet high, are set at the corners of a rectangle. Halfway between these are four smaller up-



FIG. 112. SPANISH COUNTRY HOUSE

rights. Along the tops four-inch saplings are tied with green vines to form a row of girts on which pole rafters rest. Six to eight inches apart, split-bamboo strips are tied on with vines. The roof is then thatched with dried leaves of the banana laid lengthwise with the slope of the roof, and piled on in layers until the thatch is a foot thick. Over the peak of the roof two poles, tied apart, are thrown to hold down the shelter against the wind. These houses are typical of the jungle and occur in the lower reaches of the river.

Nearer Bogotá and in the rock regions a typical Indian hut is made of stones piled up without mortar and sustaining a somewhat conical thatched roof. These houses have one door and one window; and are usually small, crude, and unkempt. In Bogotá itself the better houses cannot be differentiated from middle-class houses of southwestern Europe.

Quito, the capital of Ecuador, appears Spanish. Tile is ubiquitous. Although the climate is definitely cold at night and hot in the sun at midday, the natives do not seem to mind the extremes between sun and shade which actually are noticeable at midday. There is scarcely a chimney in the city and no artificial heat in the houses, and it is significant that the first greeting extended to the guest after he crosses the threshold is "*Cubrese usted*" — "Put on your hat."

In Southern Ecuador a cross is affixed to the center of every ridge. These are often very elaborate. In the city of Cuenca the middle classes live in considerable comfort. Under the projecting roofs or on the walls of the patio they are fond of painting exotic scenes in mural technique, not unlike the pictures worked out in tile in certain American "one-arm" restaurants. Electricity is still rare and there are no street lights. The laws of Cuenca require every resident in the principal streets to set up a candle before his house. However, the candle which complies with the law is short and not very inflammable; and the winds, blowing their hardest shortly after dusk, soon extinguish all the lights, which the house owners, having complied with the letter of the law, do not trouble to relight. Accordingly the visitor to Cuenca who finds himself in the streets after eight o'clock at night carries a square glass box containing a lighted candle or, like Samuel Pepys, is accompanied by a linkboy.

Lima is a modern city but it is nearly all that is modern in Peru. Outside of the capital, mud and chopped straw are trampled with bare feet and loaded into a hod and made into an adobe wall. Roofs are usually of thatch. In the better houses the owners live on the upper floors, while at night the attached

Indians and servants sleep on the lower floors or in the patio itself.

A graphic description ² of a night in a house in Jaén, a provincial capital, gives an entirely adequate summary of average conditions in Peru:

"A divan of reeds, set into the mud wall of the single room and covered with a hairy cow-hide . . . until long after dark we . . . squatted in home-made chairs . . . and fed ourselves over our knees. . . . It was quite *à la mode* . . . to ask for a second helping of the bean and yuca stew — which is invariably served so boiling hot . . . but under no circumstances for a third. When they had been emptied a second time, the gourd bowls were piled up on the floor in a corner, to be washed when the spirit moved, and, as if at a signal that there was no second course, the one glass in the house, tied together with a string and evidently regarded as a great treasure and heirloom, was filled with irrigating-ditchwater and passed around the circle, beginning with the guest. The feeble imitation of a candle soon flickered out and by eight we were all scattered along the walls of the hut on our reed divans, quarreling pigs shaking the house as they jostled against it, and the rain that fell heavily all night long dripping upon us here and there through the thatched roof."

Although this sort of home entirely satisfies the Indian, who makes up the bulk of the population of Peru, the nation has attacked the housing problem, as has its neighbor, Chile. In Peru a number of houses, built especially for workmen and minor employees, were formally opened in Callao in 1924. These houses were of concrete construction and had all modern conveniences including electric lights.³

The houses of Santa Cruz, Bolivia, are usually of a single story with yellow tile roofs. The central feature is a large room

² Franck, Harry A., "Vagabonding Down the Andes" (Century Co., New York, 1917), p. 242.

³ Electric light is a broad term as any one will realize who compares the average electric lighting of France or even England with our own. In Peru the lighting is said to be even more feeble and uncertain, but must seem a great improvement over the candle.

opening wide by day onto a porch sidewalk with a "forest of frail cane chairs."⁴ The walls of whitewashed adobe hold a number of hooks, on pairs of which hang the hammocks used during siesta. The sidewalks seem to belong to the residents of the houses fronting them, and the pedestrian either takes to the street or walks through what seems a series of verandahs. In the center of the town after a heavy rain the streets may be flooded for an hour or more, and at every corner four rows of mahogany piles project above the sand surface of the road to a height of a foot so that one may cross the street dryshod.

SOUTHERN

The difference between the peasant homes of the Latin nations and those of the Balkans is largely one of degree. The people of the Balkan peninsula live under more arduous conditions than the Latin peoples. Hence their standard of living is even lower. Dwelling in the mountains, they extort a difficult livelihood from the land.⁵ Their staple animal is the goat, whose milk is often their chief diet, whose pelt furnishes much of their clothing. Their fierce surroundings and their narrow margin of economic safety often tempt them into brigandage. A strong patriarchal family organization is another chief characteristic. Most of these same qualities can be observed in the poorer peoples of the Pyrenees, so it seems likely that they are typical of environment rather than of stock.

The house of a Greek peasant is perfectly typical of the region. On the average it is a one-story cabin thirty to forty feet long. The building is made of wood or stone; and the roof is sometimes tiled, but more often thatched with maize stalks and brushwood. Inside there is but one room, of which one end is occupied by the domestic animals and the other by the family. Sometimes the two ends are separated by a low screen. At the end for the family a raised floor is made of dried and beaten

⁴ Franck, "Vagabonding Down the Andes," p. 544.

⁵ It may be observed that a few mountain peoples, notably the Swiss and the Basques, have developed an elaborately carved wooden domestic architecture.

earth or of planks if there is timber in the neighborhood. The fireplace is a flat stone in the middle of the floor with a smoke hole above it, the chimney being rare. This house contains no tables or chairs. The bedding, of mattresses stuffed with corn husks, coverlets of cotton, and cushions, is stacked in the corner during the day. The cooking oven lies outside the house but the family usually dines within, seated on cushions around a circle on the floor. Such a house may broadly be said to be characteristic of a low-class peasant house anywhere in Europe, but the difference is that it is the norm in the Balkans.

BRITISH

The homes of the British Isles of today are sufficiently like those of America not to warrant any extended treatment. We may remark in closing this chapter that here, again, tradition plays an important role. In the poorer regions of Wales, Scotland, and Ireland may be found many cottars' huts of turf and thatch, often of one room and no bit better than those described in Greece. But the norm of British housing is a brick cottage with a slate or thatch roof, a small garden, a scullery, a bin for coals, a storage place for bicycles, a living room or parlor on the first floor, and a number of bed rooms on the second. There may or may not be a bath but there is almost always a toilet. Electric lighting is on the increase; the telephone is rare. All of these differences may much more clearly and properly be pointed out in the second volume of this work, and we may now fittingly turn to the next chapter, in which at long last we enter port and analyze the American home of 1933.

CHAPTER XXI

American Homes

IT is common to writers of all periods to accept as obvious all the phenomena of their own time. Consequently the student of social and domestic life of the past is driven to sources, diaries, letters, account books, from each of which he may gain some light but from none of which can he draw an idea of the whole.

The reasons for this of course are evident. The writer in the time of Queen Anne scarcely thought it worth while to describe the costume, appearance, and equipment of his linkboy. Everybody had seen linkboys. Everybody knew what they were like. Unfortunately a later generation is thus prevented from having a very clear picture of the linkboy just because of that writer's dread of being obvious.

In the field of our own study we find writer after writer of today referring to two-family houses, three-deckers, walk-up apartments, detached four-room bungalows and the like. But we are hard put to it to find typical plans of all of these very characteristic forms of American housing. The writers naturally assume that their readers are familiar with the types and probably the readers themselves think they are.

It is our belief that the reader often does not know. To be sure, every one must be conscious of the physical and external appearance of the rows of two-family houses such as sprawl on the edges of our cities. But unless the reader has inhabited one of these houses, or has intimately known people who do live in one, or unless he is a social student or worker the chances are

he has never been inside such a house and merely imagines its plan and living conditions.

In this chapter we shall therefore assume that the probable reader of this work would be glad to know a little more about the types that are constantly referred to in housing literature; if in this we err by underestimating his knowledge on the subject we shall at least have the satisfaction of having made easily available information which a future student may be glad to have.

We shall make no attempt here to define the average American home. An average would be such a composite of slum and mansion, of congested and free living conditions as to be almost useless. In North China, to take an extreme example, perhaps nine-tenths of the population live in one-story mud hovels. The average of all the houses of North China would, therefore, be not much more than the one-story hut. To neglect the homes of the other tenth would fail to give any real idea of Chinese housing conditions. While the quantity of people living at an extremely low level is not so great in the United States as in China, none the less the average which might be drawn would demonstrate nothing.¹

In our study of other countries we have been unable to discuss every type of dwelling that occurs and have had to content ourselves with those most characteristic of the time, the culture, and the community. If we had only a similarly brief space for consideration of the American home we should unquestionably have to take the multi-family dwelling, the apartment house, as the great housing feature which distinguishes our contemporary life from that of other periods and nations. We shall deal with American homes of 1933 on a larger scale and will try first to describe each of the prevalent types in sufficient detail to make their characteristics clear.

The homes of America may be divided into four groups according to location and characteristics. These groups are:

¹ In the second volume of this work certain statistical evidence is given as to the prevalence of various conveniences, as to numbers of rooms and the like, and the reader who is interested in averages is referred to that volume.

- (1) Urban
- (2) Suburban
- (3) Rural town
- (4) Country

The groupings overlap somewhat. Urbanism is not confined to city limits. For example, the chief characteristic of urban homes of any class is compactness and density of population. In many of the newer cities of moderate size in this country² there are large areas within the city limits consisting of boulevarded streets on which are good-sized, attractive, detached, single dwellings surrounded by ample yards and trees. Their inhabitants live essentially a suburban life and such homes are properly suburban although within the city limits. On the other hand, in the outlying districts of many of the large eastern cities there are suburbs which have developed such a density that they are really urban. Suburbs fairly distant from these larger cities may be almost rural towns. Consequently, the definitions of the classes are not rigid as to boundaries but are made rather with a view to character.

URBAN HOMES

The chief characteristics of urbanism as it affects homes are compactness of the dwelling, and high density of population. Coupled with these are certain advantages, such as quick transportation, resulting in a short period of travel between home and work; high development of utilities and services; easy access at almost any time to shops, amusements, and the cultural advantages of the city. As disadvantages may be mentioned air polluted by industry and motor exhausts; light filtered through a hazy atmosphere and obstructed by other buildings; noise; lack of proper access to green growing things and mother earth, particularly for the young children of the home; and rather too constant propinquity of one's neighbors.³

² Such as Saint Paul.

³ As a matter of fact, people who have a highly developed herd instinct regard this as an advantage rather than a disadvantage. Such people languish in the country, whose quiet is for them a poor substitute for the elbow rubbing

In the city we find first the lower classes of artisans and wage earners employed in shops and industrial plants whose working hours make it absolutely impractical for them to try to live far away from their work. This class may include also certain clerical workers. These people live in the city perforce. Above them are the myriad office workers who could if they would live in a suburb but who hate the idea of commuting or the difficulties involved in country residence. Farther up the scale are people who could live in the country without effort and whose working hours do not make commuting onerous, but who choose deliberately the convenience of the good apartment and the ease of theatre going and all the concomitant excitements of the city in place of what they would probably call the "bourgeois" life of the suburb. Still higher in the scale are the very wealthy who have given up town houses, who probably have one or more country places, who travel considerably, and whose town establishment is merely a *pied-à-terre* occupied principally during the winter or in passage from one place to another.

Whatever the reasons for living in the city it is a fact that so far as essential conditions are concerned all of these people live much the same lives. The man who sleeps high above Park Avenue none the less wages a war with dust and dirt, noise and gas which is not different from that of his neighbor in the East Side slum. On a hot day he too must seek refuge in park or summer resort. On going to work he too must become engulfed in a swarm of humans. To be sure, his wealth permits him escapes from the city and in the city which are closed to the poor man. But in the last analysis if he really is a city dweller he pays the same price for living there.

SLUMS

At the bottom of the city's economic scale are the slum dwellers, people who do not choose their living conditions but take what they can afford and what they can get. Slums are of many

of the metropolis. The clomp-clomp of the *sabots* of a belated French artisan breaks their rest more than the continued roar of the klaxons of 42nd Street.

kinds. In earlier days, before government became socially conscious, the usual slum consisted of a very large, many-storied building often covering a whole block, to many of the rooms of which no outside air or light could filter directly. Gradually laws have defined the amount of block area that can be covered and the method of covering it until there are probably no buildings recently constructed which represent this extreme of condition. Moreover, cleaning up of slum areas has been persistent so that many of the obsolete buildings are now removed.

Notwithstanding this fact, many slums still exist, long rows of ugly brick buildings with fire escapes on their façades and rears. From these fire escapes, particularly those facing the streets, with the hot air beating up in their faces from the pavement below, the children get their principal view of nature. No trees or grass, no birds or animals except alley cats inhabit these regions. There is nothing but bare brick and stone and iron. Within, the rooms may all have windows; but they are dark, badly ventilated, and nearly always house more than one person. One enters the building up a narrow dark stair, off of which badly hung doors lead to the apartments. Within, the rooms of the apartments are ill-defined as to purpose. They generally communicate one with the next with no general corridor or hall. The kitchen is used for eating, cooking, washing, bathing, and probably for sleeping as well. Laundry hangs from the fire escapes and so does bedding when it is occasionally aired. The milk bottle rests on the shady fire escape if there is one. The street below is a turmoil of noise all day long but perhaps at night it is actually quieter than the fine residential streets, where the motor traffic is more dense and persists to a later hour.

It used to be supposed and perhaps it used to be true that the owners of these buildings, exploiters of the poor, made great sums of money by their rental. Little upkeep was required, little service, and the total rent received was rather large. Recent evidence indicates that in many cases city property has so increased in value that the tenements are of little or no profit to their



FIG. 113. STREET SCENE, LOWER EAST SIDE, NEW YORK CITY

owners; and it is economic force rather than social advancement that has often resulted in clearing up tenement areas, replacing them by higher-renting properties with, however, no provision as to where the dislocated people were to live.⁴

Not all the slums are deliberate. In the older cities large sections, usually near the center and once highly desirable, have degenerated and become slums. Thus brownstone houses, old wooden houses built close together with common party walls, apartments of the outmoded type, may become slums. More people live in the same rooms. Food is scarce and poor. Clothing reeks of toil. Filth is common, partially generated by the habits of the people and partially by the fact that there is little incentive to try and improve interior conditions in view of the mean exteriors.

When there is work every one in these families works. The father and older boys are unskilled laborers, low-paid factory hands, hawkers and peddlers. The younger boys sell newspapers or shine shoes. The mother works at home washing and cooking for a numerous brood while the girls help at home or obtain jobs in sweat-shops and the like, and marry as soon as possible. It is not true that in every case such families are poor. Often they deliberately choose the cheapest living conditions in order to save large amounts of money. Perhaps in some cases habit actually makes them choose such living conditions because there is a certain excitement in the herding of people close together.

The houses themselves are, as we have said, dingy, in bad repair, badly lighted and badly aired, and on the whole badly kept. The street is the playground of the young. Their favorite bath in summer is from the hose of the firemen. The family has no means of escape from the city as have most other classes of city dwellers. In the slum they live and die, chilled in the winter and roasted in the summer, the unwilling victims of economic law.

Slum conditions are, of course, no new phenomena and the

⁴ As an example of this type we may cite the old "railroad" type of apartment, a typical plan of which is shown in Fig. 114.

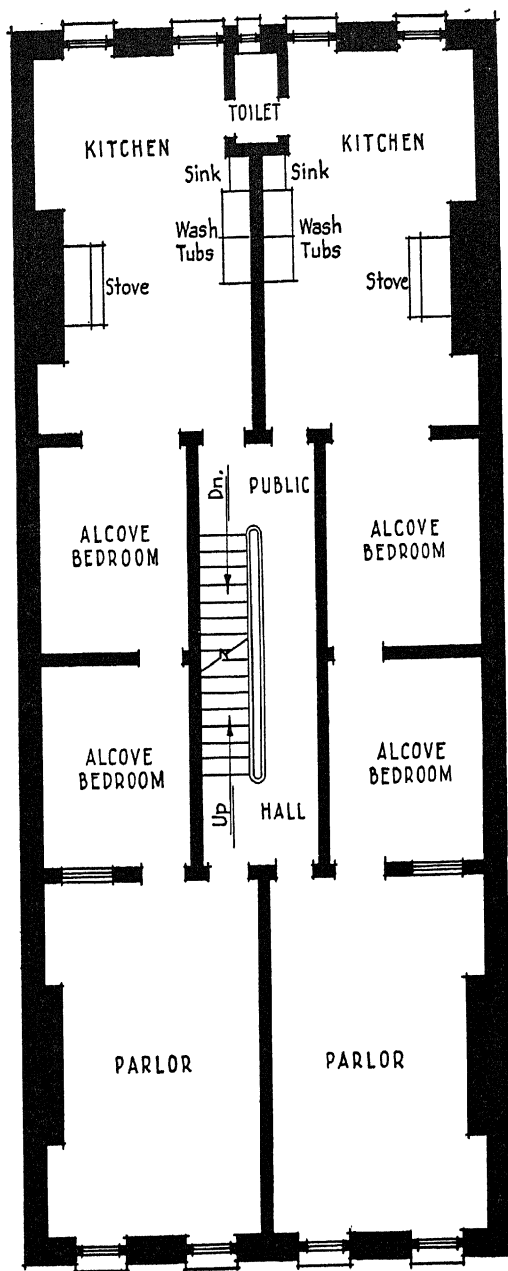


FIG. 114. FLOOR PLAN, TYPICAL "RAILROAD FLAT"

general belief is that by legislation and philanthropy they are gradually being eliminated. There is still a long and hard road to travel, however, before they cease to be a type of American housing.

Cities which are built up to a high degree often have their nearby dumps and vacant lots on which frequently may be found slum homes of a different type, for which their owners or occupants pay no rent and which are made of whatever materials lie on the dumps. The occupation of these people varies. It may consist only of picking over the dump for an occasional trove. In any case it probably never goes beyond that necessary to pay for food for a few days. Such a "shanty town" is the one partially due to unemployment conditions now existing at 12th Avenue and 40th Street in New York City and shown in Fig. 115. It represents the nadir of American housing and is of course much worse than a village of a primitive tribe. A different type near Los Angeles appears in Fig. 116. Fortunately, the class of people who exist as squatters is so small as not to be a significant factor in American housing.

People of the squatting villages are definitely a municipal charge and people of the tenements⁵ and slums usually threaten to be.

APARTMENTS

The term "apartment dwellers" includes a great many classes of people, from those of moderate incomes who live in five-room apartments and do a considerable amount of housekeeping; through those of perhaps higher incomes who hate housekeeping in any form and live in the apartment hotel or in the two-room "bed-in-a-door," "dinette" types, often at high rents; to the upper classes who live in large apartments, often of two stories, with most of the characteristics of the detached house.

Apartments in general provide light only on two sides, front and back, although there are exceptions. The entire dwelling is usually on one floor. Back porches are often provided. A com-

⁵ Using "tenement" in its popular, not its legal sense.



FIG. 115. "SHANTY TOWN," NEW YORK CITY

mon stair leads to a number of homes. Heat is supplied by central service and does not concern the apartment dweller, hence fireplaces are almost wholly decorative and do not appear except in expensive types. Many other services are often provided by the janitor. Renting is the common form of tenancy. They are usually near to rapid transportation. In the very largest cities owning an automobile has become a difficult and costly practice for the strict urban dweller, but on the whole people in American apartments do own automobiles and garage space is provided. There is little or no grass and foliage in the apartment block although some of the newer garden apartments do make efforts to provide these advantages. In the bigger buildings cooked food may be purchased; and laundry, pressing of clothing, and the like are cared for by the building management. Apartment dwelling takes a great deal of personal load from the man of the house, who merely writes a check for his rent; while in many types the woman also is relieved from the burden of her domestic duties. One of the greatest criticisms of the apartment is that it is designed for an average family and but few individual families are likely to be average; hence living in any grade of apartment almost always constitutes a distinct compromise between what is needed and desired and what is obtainable.

At the bottom of the apartment scale is the three-decker walk-up, a typical plan of which is shown in Fig. 117. In elevation these buildings are very similar, no matter where they appear. The poorer ones are built of wood, the better ones of wood with brick veneer, and the best of brick and concrete. However, the fireproof building of this type would appear to be the exception rather than the rule. A row of characteristic wooden three-deckers is shown in Fig. 118. These prevail in unfortunately great numbers in American cities.

These apartments, it will be noted, are equipped to permit a rather full degree of domestic activity. There is a definite living room, a dining room, a kitchen; laundry tubs are often provided in the basement. The usual number of bed rooms is two

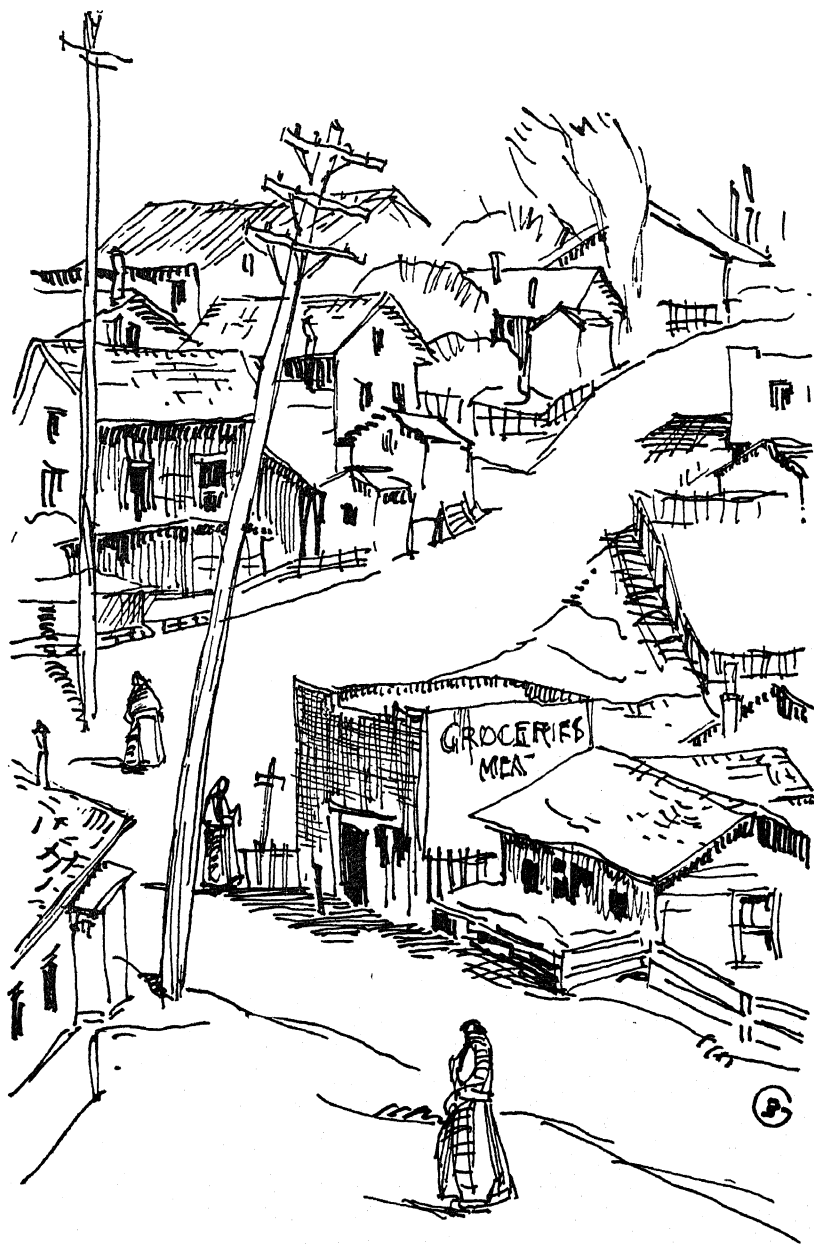


FIG. 116. MEXICAN VILLAGE NEAR LOS ANGELES
After a pencil sketch by Heilborn

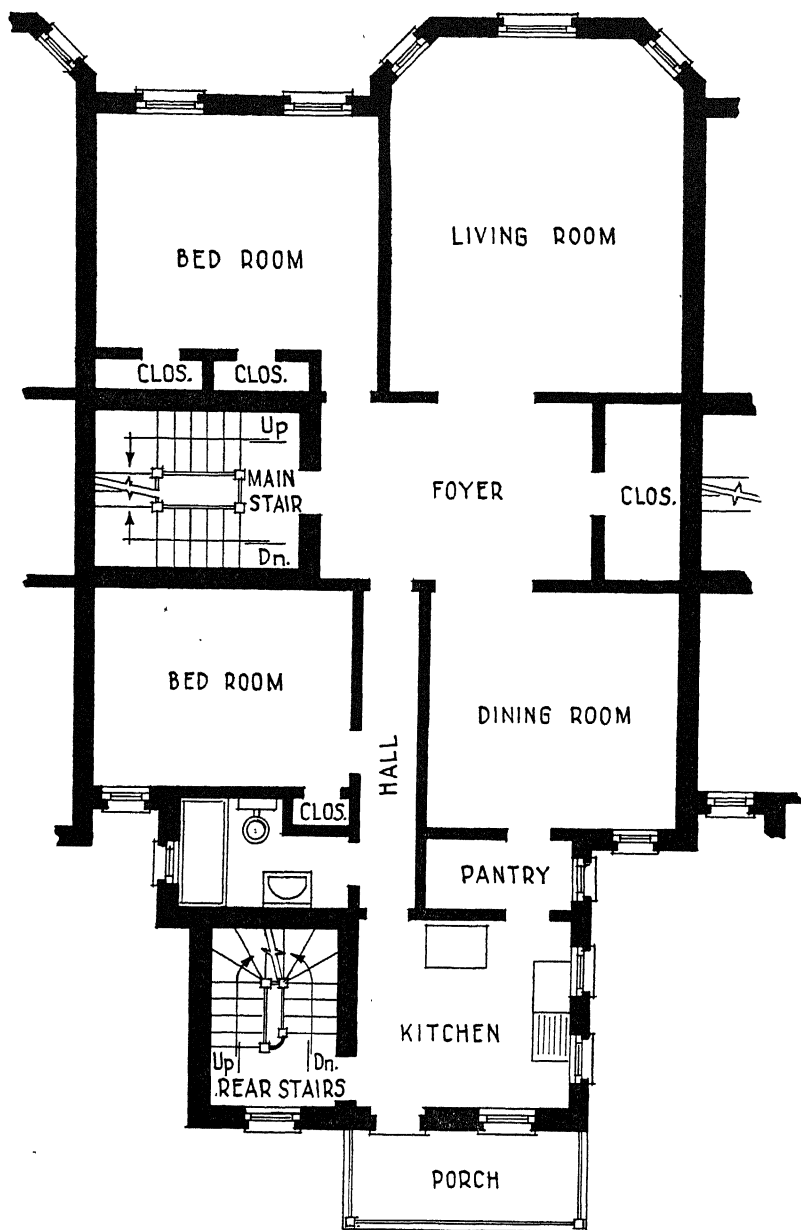


FIG. 117. PLAN, 5-ROOM WALK-UP APARTMENT

and there is one bath. But for gardening and recreation, the five-room apartment of this type offers all the essentials of contemporary American life. The lighting is almost univer-

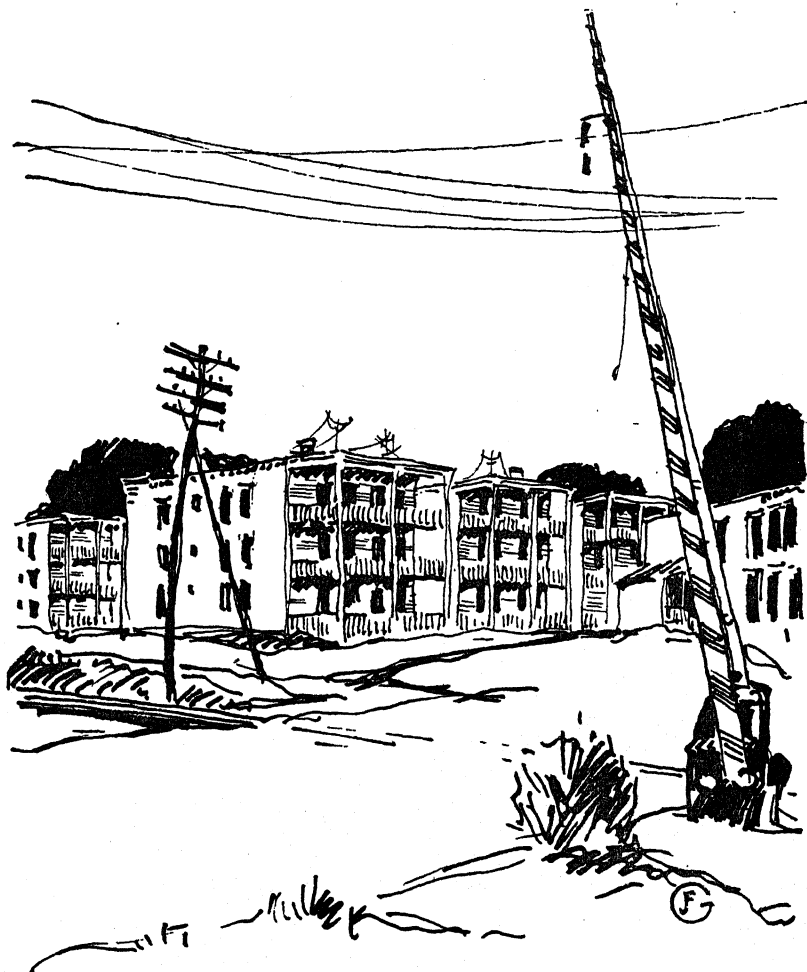


FIG. 118. WOODEN "THREE-DECKERS"

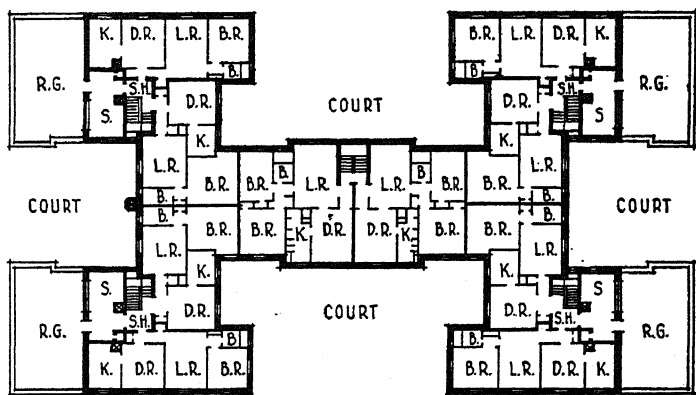
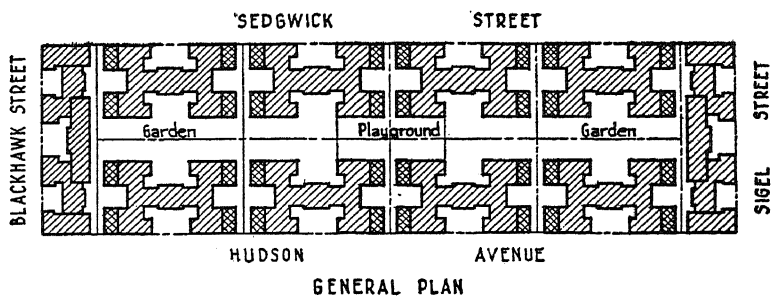
sally by electricity. The heat is central steam and is cared for by a janitor.

The men of these homes belong to the higher-paid artisan groups, the minor business executive class, and other people

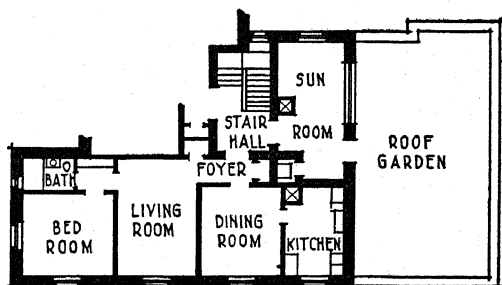
of moderate but substantial income who for one reason or another find themselves committed to city life. They rise about seven, eat the conventional breakfast, drop into the subway and are whisked to work. They carry their lunch or eat it down town but in any case do not have lunch at home. They dine at home with the family and in the evening go to the cinema or listen to the radio. On week-ends in summer they throng the roads with their cars, bound to or from a beach or mountain. They are the chief support of professional sports. In general they buy their amusement and they represent a solid and substantial average element of the community. The women are principally engaged in domestic duties, cooking and cleaning being the chief. As large families are rare in these homes the care of the children is not onerous. The children later go to public school and possibly to college. Life is compact, clean, and fairly comfortable. It suffers from too many, but too-little-known neighbors, too much reliance on external diversion, too little quiet, too little thought, and not enough contact with nature; but it cannot be said to represent a low standard of living. This type of apartment varies widely in its rent but the chief difference is due to location and to the type of finish put into the rooms, the essential sizes and conveniences of which are broadly similar.⁶

The people resident in the typical five-room walk-up apartment are nomadic. Even without change of occupation about every so often the average family moves from one apartment to another practically the same except for location. This forces more continued renovation than would be required with sedentary occupants and is an economic waste. Also this type of life is not conducive to the rearing of children; and many families in these homes consist of only husband and wife with at most one child, a condition due partly to economic circumstance and,

⁶ For instance, in the living room cheap wall paper, good wall paper, or textured finishes. In the bathroom wooden floors and plastered walls, tile walls up to chromium-plated fixtures. The kitchen varies in the quality of its stove, its refrigerator, etc., etc.



PLAN OF TYPICAL CENTER BUILDING



PLAN OF TYPICAL APARTMENT

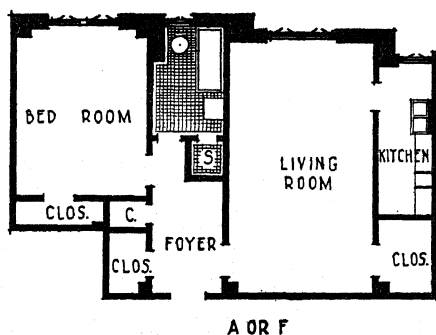
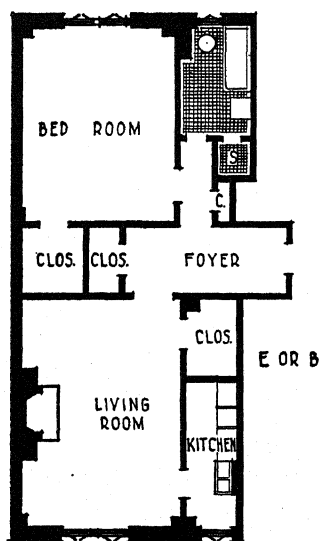
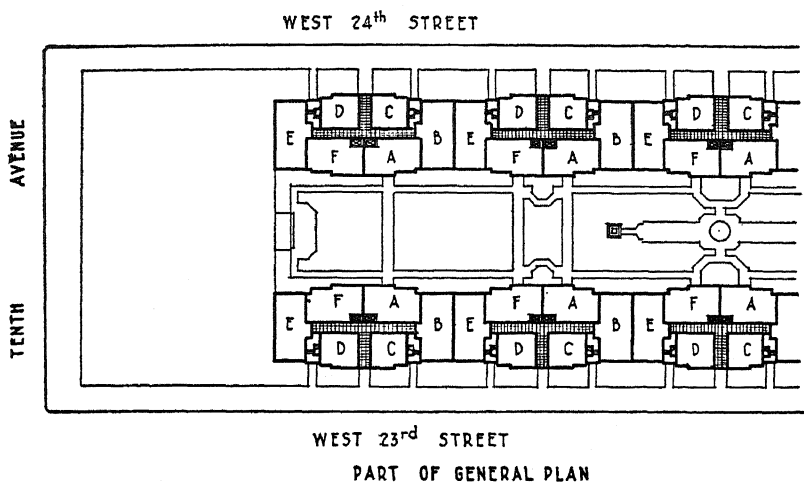
FIG. 119. PLANS, MARSHALL FIELD GARDEN APARTMENTS, CHICAGO

often, one suspects, to inclination. Apartment-house life does dull the taste for the hard work entailed by domestic virtue.

An effort to supply synthetic nature is now being seriously made in the development of "garden" apartments. A characteristic development of this sort is shown in Fig. 119. In this type of layout the center of the block, occasionally entirely closed off from the streets and occasionally open at one or both ends, is devoted to grass, trees, flowers, and playground. To make such a development possible with the high cost of city land large numbers of families must be housed in the remaining area and such buildings therefore have a large number of small sized apartments. Most of the inhabitants care principally for a garden as something to look at, and this is fortunate for if any number of them wished to use the green spaces at the same time their advantages would disappear.

These particular apartments consist of compact arrangements of four or five rooms including a separate kitchen and dining room. Living conditions in them accordingly are not very different, although on a somewhat higher scale, from those in the five-room apartments previously described. Unquestionably the garden adds to the attractiveness of living and represents a good compromise. It does not give the city dweller all the advantages of the country.

Although the garden apartment is growing in favor, the more characteristic high-class building of the present time is represented in Figs. 120 and 121. This may be called a garden apartment, for it does have a central planted court, but the great height of the building imposed by the value of the land makes the garden obviously unimportant. The plan of this building illustrates a factor in apartment-house design which we have not hitherto mentioned, a variety of plans in the same building. Apartments E and B are the largest, with the most desirable exposures, having light on at least two sides and in one case on three. Apartments A or F are of approximately the same size but have only one lighted side; while apartments D or C are one room smaller. In A, B, E, and F, a separate bed room is



NOTE:- S, BUILT IN SHOWER
B, IN-A-DOOR BEDS' OPTIONAL

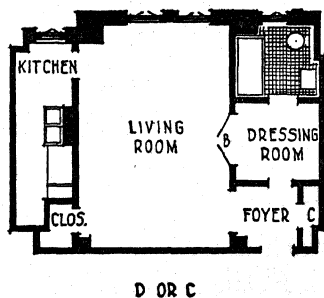


FIG. 120. PLANS, LONDON TERRACE APARTMENT, NEW YORK CITY

provided; while C or D provides the beds in a closable space in the living room. None of these apartments is provided with a real dining room, but all have kitchens with a space large enough for a dining alcove.

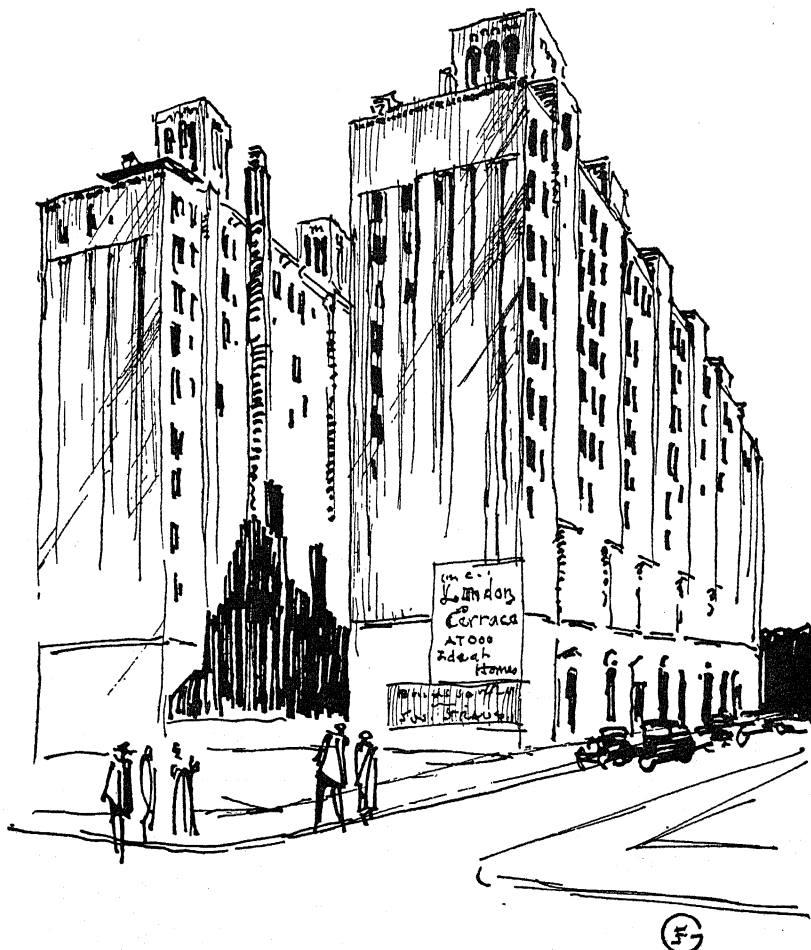


FIG. 121. LONDON TERRACE APARTMENT, NEW YORK CITY

Such dwellings represent the ultimate in modern compactness. Eating as a social function is almost entirely inhibited by the space arrangements. Guests are not provided for and children also do not form part of the family scheme. The cramped

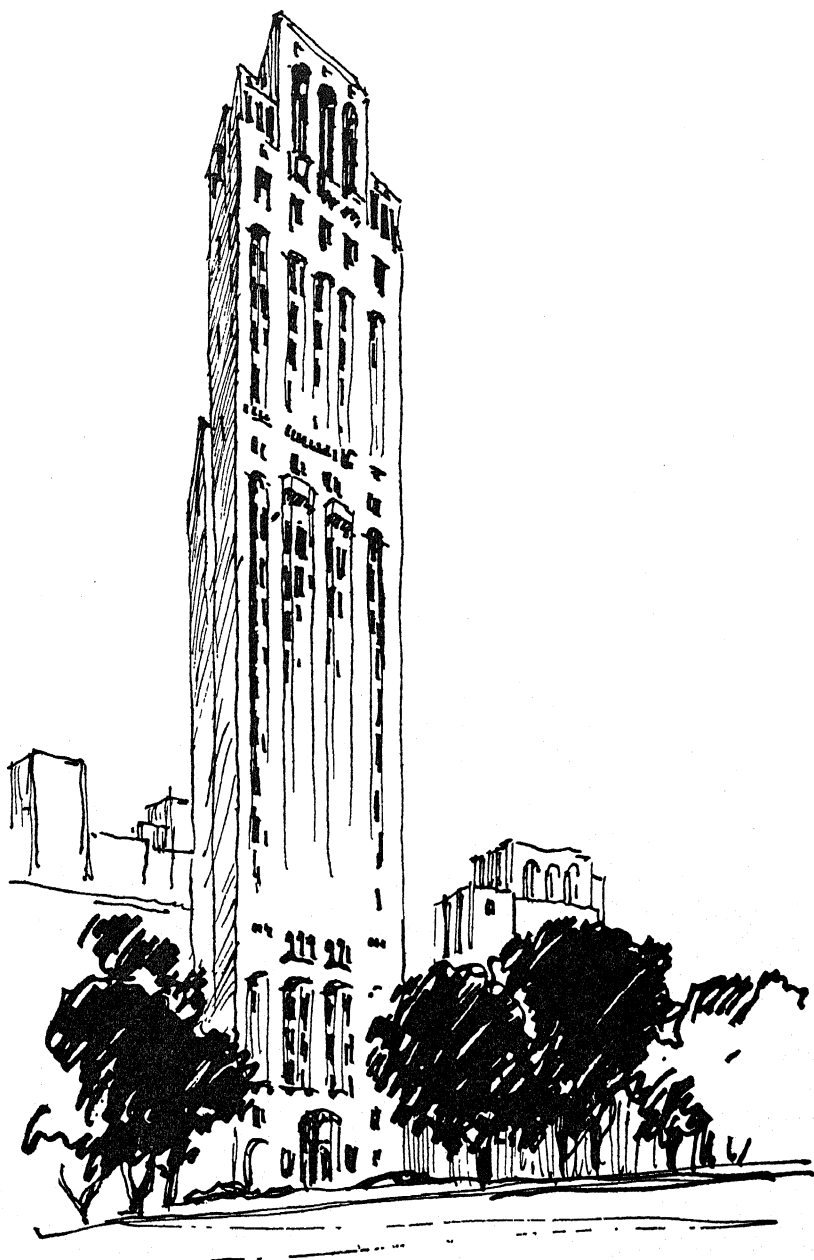


FIG. 122. A TOWER APARTMENT, LAKE SHORE DRIVE, CHICAGO

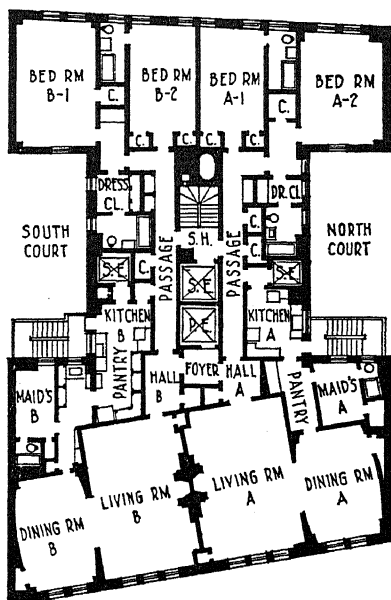
nature of the kitchenette in all dwellings of this type tends to force a good deal of eating outside the home, while the narrow living quarters result also in a good deal of extra-mural entertaining. Home life of the traditional kind is almost entirely eliminated.

Such homes are literally almost nothing more than shelter and a place to store extra clothing and very few household goods. Often in fact apartments of this type are rented furnished and occupants own no furniture or even utensils, thus achieving a degree of mobility equalled not even by the nomad of Arabia.

The people who live in these dwellings are by no means in the lower-income groups. Some of them are young married couples in the transitional stage of employment and income who will go on to better homes and to whom their present surroundings are nothing but convenient and temporary makeshifts. Others are pairs of men or women employed in the city. Again they are husband and wife, both employed. But unfortunately increasing numbers are people who actually like this kind of existence, have no inclination towards real domesticity or the rearing of children, but prefer to confine their activity to earning enough money to pay for all sorts of services rendered by servants common to a number of families.

The five-room and the kitchenette apartment represent the two major tendencies in apartment living, but above these there are a number of degrees of comfort and domesticity which can not be neglected in a full consideration of the apartment house. These higher strata of apartment dwelling are of course by no means so uniform and every plan varies considerably from every other, but two or three examples may serve to illustrate their character.

Fig. 122 is an elevation of a semi-tower apartment, Chicago, on which considerable thought has been given to external architecture and plan. The floor space is ingeniously subdivided so as to provide two six-room apartments or one eleven-room apartment (Fig. 123) and a few other arrangements. Eleva-



6 ROOM SIMPLEX

11 ROOM SIMPLEX

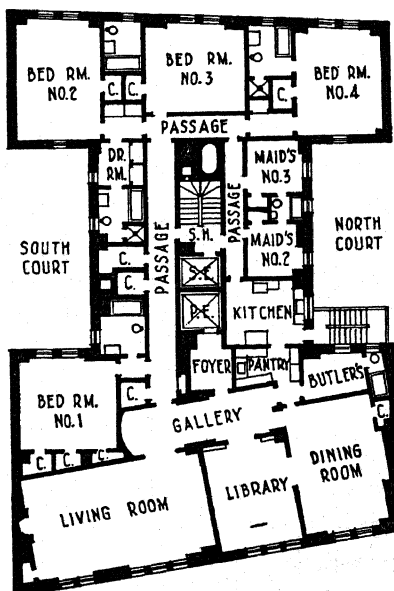


FIG. 123. PLAN, TOWER APARTMENT, LAKE SHORE DRIVE, CHICAGO

tors take the residents to their homes. Bed rooms on the south side have windows on one exposure and occasionally on a second facing an interior court. The living room is provided with a fireplace. There is a separate dining room, and provision for one or more maids. Such buildings are thoroughly fireproof, often provided with sound insulation. The proximity of other residents is not felt. There is room for a considerable degree of domesticity. However, service is ready at hand. A very high development of the tower apartment may be seen in Fig. 124.

Finally in very expensive apartments there is an effort to resemble the detached house. This consists of placing the rooms on two floors, thus creating the duplex apartment, a characteristic and good plan of which is shown in Fig. 125. These apartments are often not in the highest buildings but do have elevator service. They furnish large airy rooms, with internal stairs. To all intents and purposes one might be living in a good-sized detached house except that light does not come from all sides and that there is no surrounding lawn. As winter residences they leave little to be desired but they are available only to the wealthy. Life in them is not materially different from the life of similar classes of people in the country. There is room for children, for entertaining, for over-night guests. There are often common facilities for play, natatoria, sun-rooms, roof-gardens, billiard rooms. The other occupants of the building being of high class are presumably congenial or at any rate not objectionable. But it is rare in this type of apartment or in any other to find neighbors who know each other well. City life with all its required give-and-take does not promote neighborliness.

The occupants of the large apartments are less nomadic than their brethren of the smaller. Leases are of longer duration. Plans are more specialized and if a family finds a suitable place they are loath to leave it. They represent a high, though not necessarily an ideal, state of living. The noise of Park Avenue comes through the windows and the oil smell of Bayonne does get across the water as freely to Fifth Avenue as to Eighth.



FIG. 124. A TOWER APARTMENT, ONE FIFTH AVENUE, NEW YORK CITY

City dwellers often get so accustomed to the continuous roar of the city that they cannot sleep in the country, where infrequent noises affect them like pistol shots. However, it is probable that this physiological accommodation to noise takes its toll in greater nervous tension.

It must be remembered, then, of the multi-family type of urban dwelling that it may vary considerably in accommodation and beauty, but that it is always subject to certain common disadvantages — noise, incessant struggle against dirt, propinquity of neighbors, and lack of proper outdoor play places. It gives in larger measure than any suburban life can, service of all kinds, freedom from minor domestic duties, access to museum, zoological garden, library, opera, and all forms of purchasable amusement.

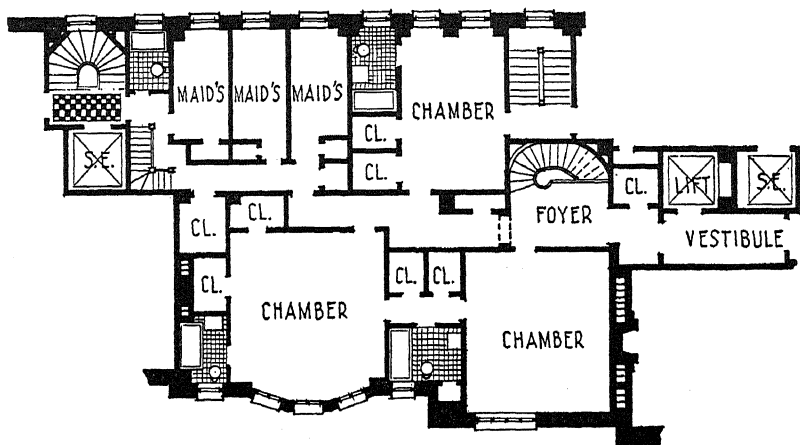
TWO-FAMILY HOUSES

On the outskirts of many of our cities but still to be included as urban in their essential conditions stand long rows of two-family houses, usually built of wood but sometimes of brick veneer. A characteristic plan appears in Fig. 126 and an elevation of a group in Fig. 127.

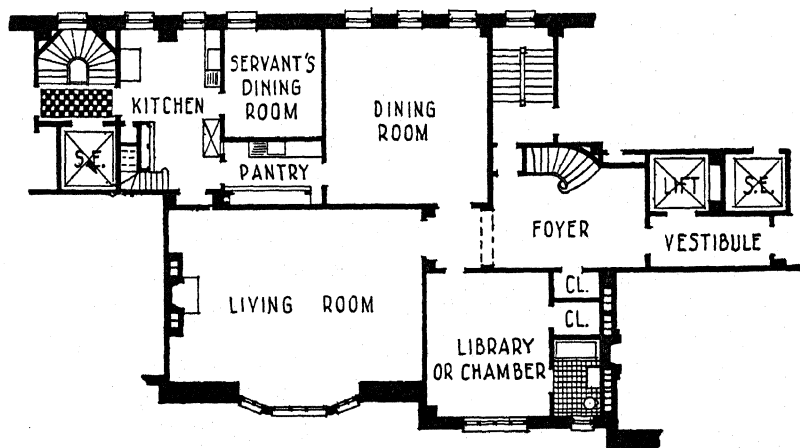
The resident of the two-family house, like his cousin in the apartment, is essentially a tenant rather than an owner, although the genesis of the two-family house probably lay in the desire of an owner to help to pay his own charges by renting the other half of the house. There are still a number of owner-tenants in two-family houses; but this is distinctly the exception in apartment houses, whose owners are normally corporations or individuals holding a large group of buildings.

Two-family houses resemble the apartment in that all the rooms of a dwelling are on one floor.⁷ A common type provides five rooms on the ground floor, a similar five on the second, and two or three on a semi-third story under the roof which are added to the accommodations of the second-story dwellers. A

⁷ With the exception of the relatively rare and usually higher-class "duplex" which divides the house vertically.



UPPER FLOOR DUPLEX APARTMENT



LOWER FLOOR DUPLEX APARTMENT

FIG. 125. PLAN, DUPLEX APARTMENT, ONE EAST END AVENUE,
NEW YORK CITY

common cellar contains separate heating plants tended by the tenant, as heat is not included in the rental. The houses are completely detached so that there is technically light on all four sides but the principal light comes from front and back as

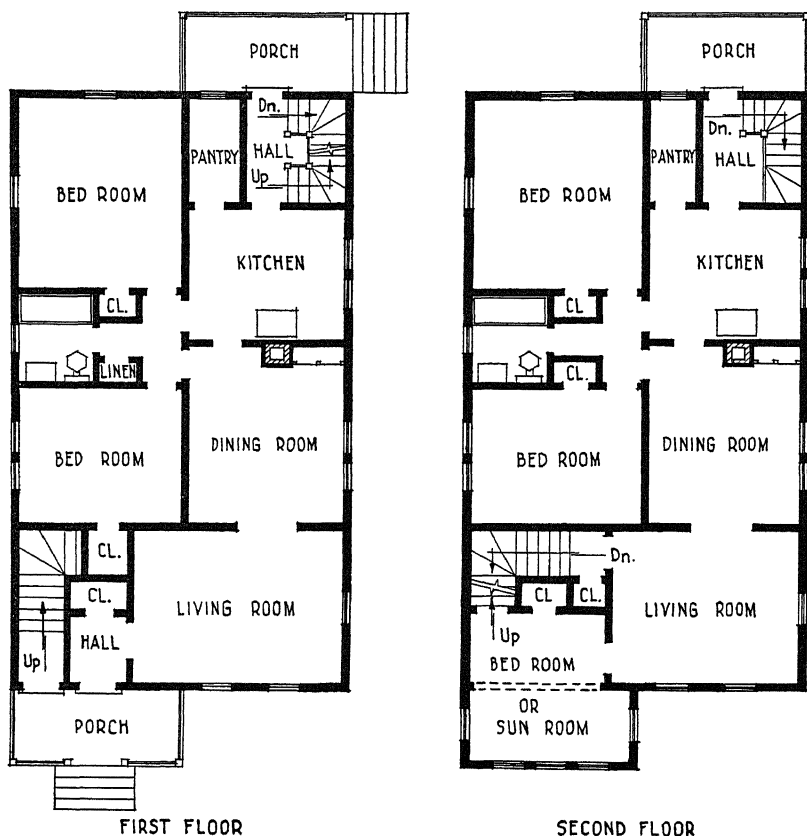


FIG. 126. PLAN, TYPICAL TWO-FAMILY HOUSE

the lateral space between houses is slight. There is a small front yard with a little grass and a somewhat larger back yard, which in the better types is planted but which is never a real lawn. The back yard serves for hanging laundry to dry. These houses are provided with garages as a general rule for at their distance from the city the automobile is desirable. The room ac-

commodations are like those of the average apartment. They have a number of domestic advantages over the apartment but much less service, and require longer periods of transportation to and from work. Esthetically they are unsatisfactory and it is unfortunate that they are on the increase.



FIG. 127. A STREET OF TWO-FAMILY HOUSES

THE ROW HOUSE

In localities also included within the urban area are the row houses to be found in great numbers in several eastern cities.⁸ They are single houses with common party walls, so that in light and air they resemble the apartment; but they do have two

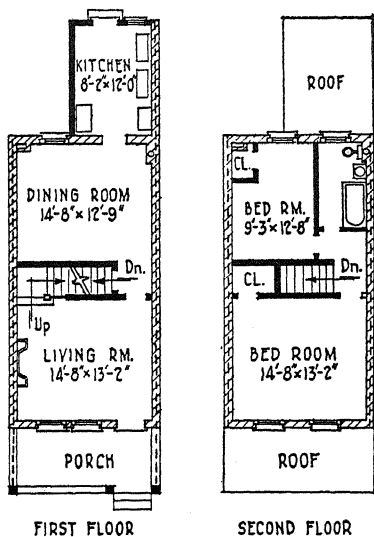
⁸ Notably Philadelphia.

stories, are slightly more private, and usually have small amounts of lawn in front and back. The cheapest of them are ugly but in this type of dwelling there exists great chance for improved esthetics for people of moderate means. Plans of some typical row houses are shown in Fig. 128. These houses are small and adapted for people of very limited incomes, and they differ little from apartments in the accommodation they offer except that one can step directly from his house to his ground. They are somewhat nearer the centers than the bulk of two-family housing. One of their greatest defects is utter lack of individuality; and continued living in them seems to develop a similar trait in their occupants.

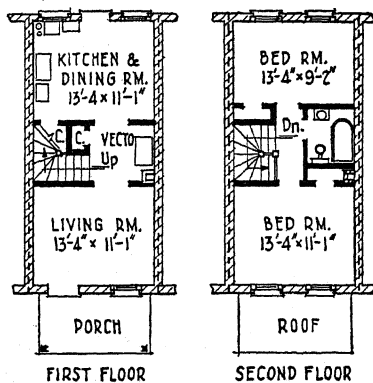
SINGLE HOUSES

On the edges of many large cities are small houses closely compacted together. These house individual families but have so little yard that the conditions are essentially urban except that the air is somewhat better, the night somewhat quieter, and the communication somewhat slower. The line of demarcation between these houses and those we shall discuss under Suburban Homes is vague and it suffices here to call attention to some characteristic plans as shown in Figs. 129, 130, 131, and 132. The reader must realize that it is customary for a builder to develop a whole street from one architectural idea and often from one plan and elevation, obtaining variety merely by sundry ornamental excrescences.

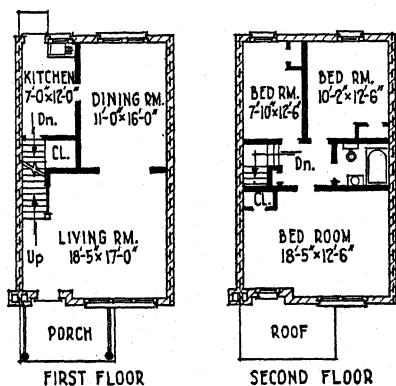
Figure 129 is the plan of a house about as small as could well be. It contains exactly the facilities of the kitchenette apartment without many of the advantages. But this bungalow from Dallas, Texas, probably on the whole represents a higher standard of domesticity, if not of living, than the richly decorated one-room apartment of Manhattan. Figure 130 shows two essentially similar plans. The houses are simple. Each is rectangular and one-half contains living quarters of living room, dining room, and kitchen, while the other is devoted to bedrooms and bath. No fireplace is provided. There is no room



BALTIMORE, MARYLAND



WASHINGTON, D.C.



CAMDEN, NEW JERSEY

FIG. 128. PLANS, TYPICAL ROW HOUSES
From President's Conference

for servants. The Indianapolis house, 23 feet wide and 47 feet long, occupies a lot $35' \times 135'$; the Flint house, 31 feet wide and 28 feet deep, is placed on a lot $50' \times 100'$. Both are bungalows and the Indianapolis house has a detached one-car frame garage. Figure 131 shows a somewhat larger house of the typical square plan, located in Birmingham, Alabama. A single stair

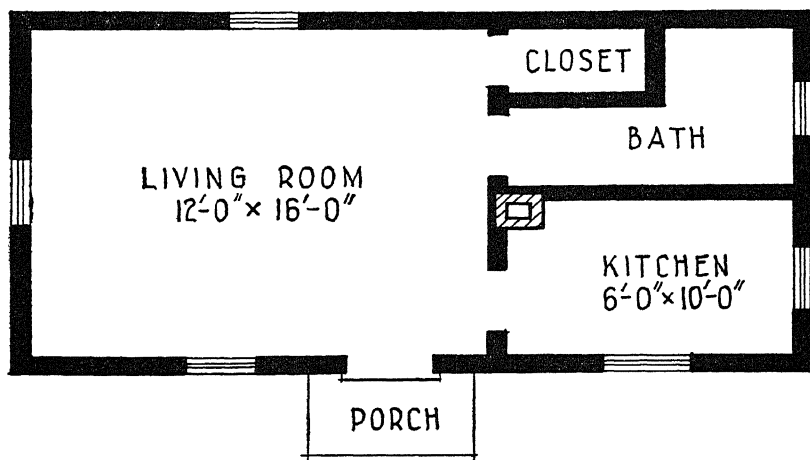
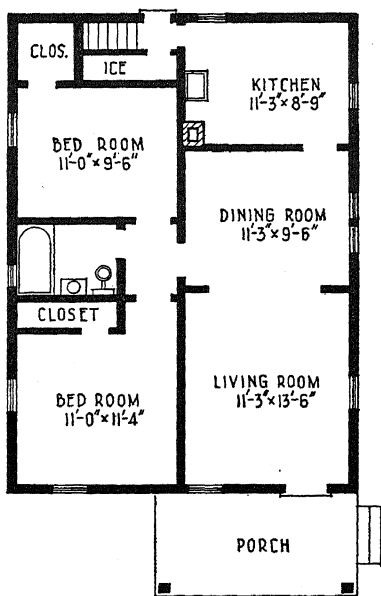


FIG. 129. PLAN, BUNGALOW, DALLAS, TEXAS
From President's Conference

leading from the living room saves considerable space in the hall. The principal added convenience is a fireplace, although there is also a pantry and one more bed room. Figure 132 shows a house of similar type but rectangular and with a central stair hall, in Fort Wayne, Indiana. This latter is a very characteristic American house plan.⁹

⁹ The plans discussed above are taken from a survey conducted by the Division of Building and Housing of the U. S. Department of Commerce and quoted in "House Design, Construction and Equipment," a publication of The President's Conference on Home Building and Home Ownership.



INDIANAPOLIS, INDIANA

FLINT, MICHIGAN

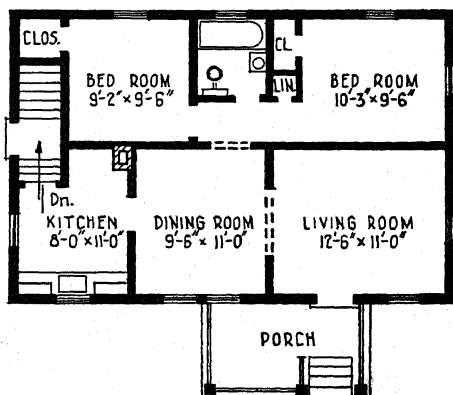
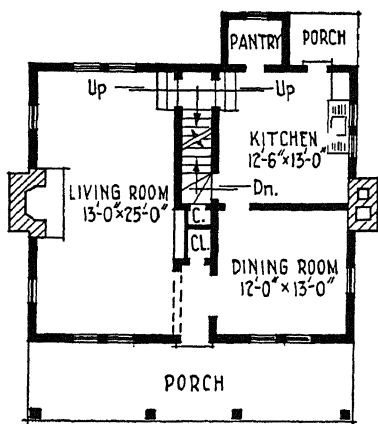


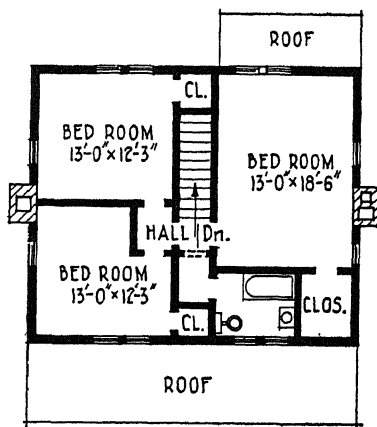
FIG. 130. TWO HOUSE PLANS
From President's Conference

SUBURBAN HOMES

On the whole American housing has probably reached its highest development in the varying homes of the suburbs. The suburban man lives anywhere from fifteen minutes to an hour from his business. He is on an equality with the city resident of smaller cities where suburbs have not developed but where broad avenues away from the business district provide within the city



FIRST FLOOR PLAN



SECOND FLOOR PLAN

FIG. 131. PLAN, SQUARE HOUSE, BIRMINGHAM, ALABAMA
From President's Conference

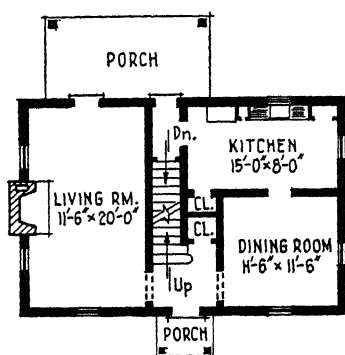
limits the trees, grass, open air, and quiet which in larger cities have to be sought in the suburbs.

Let us steal up on this man while he and his family are yet asleep. It is seven o'clock in the morning, and the rising sun is casting its light on his house.

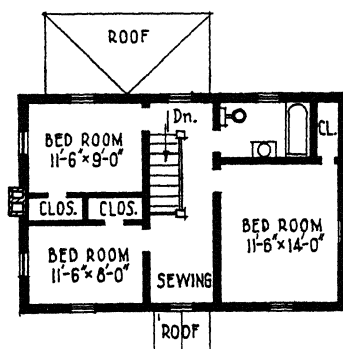
This house stands detached on 7,000 or more square feet of land belonging to it. Its appearance may be anything. It is English, Spanish, Colonial, Georgian, or a mixture of these into an American style. It is likely to be built fairly harmoniously in the style chosen. It sits low on the ground and except in the warm sections of Florida, California, or the Southwest it has

pitched roofs of sufficient slope to throw off snow. A gravel or cement walk leads from the street to its porch, which is back rather far from the street unless it is a very new house. The present tendency is to get as near the street as building laws permit and devote the back of the lot to private uses. A driveway leads to a garage for one or more motor cars. There is a good deal of planting around the house and a garden in the rear where some vegetables or flowers or both are grown.

The house has two or three doors leading to the outside and though these are locked there is no difficulty in forcing them



FIRST FLOOR PLAN



SECOND FLOOR PLAN

FIG. 132. PLAN, RECTANGULAR HOUSE, FT. WAYNE, INDIANA

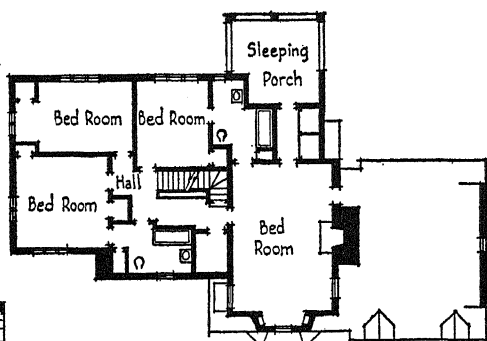
From President's Conference

or in entering through one of the low windows by cutting a pane of glass. It speaks well for communal security that in this little-protected house the inhabitants sleep free from any serious danger of theft, or other untoward invasion. None the less we shall be burglars and enter to examine the plan of the house while it is still undisturbed by any domestic activity.

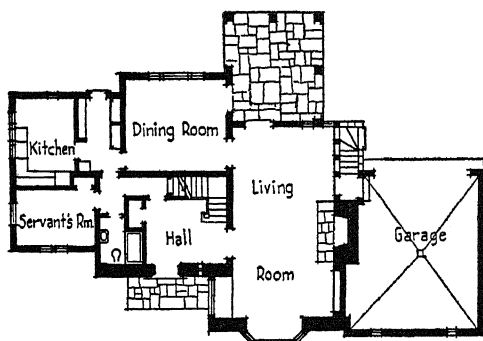
There cannot be said to be any typical American plan. Many people in the suburbs live in old houses which may go as far back as Colonial days and which frequently date from 1850 to 1870 and are of the type shown in a previous chapter, with some modern modifications of plumbing, heating, and wiring.

(A) TYPICAL ENGLISH HOUSE

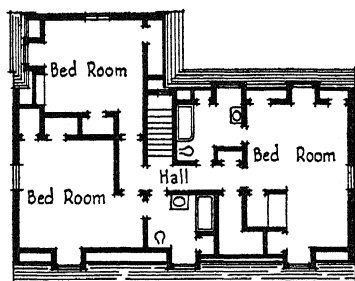
House of Mr. Howard L. Wilson
Scarsdale, N.Y.
Edgar and Verna Cook Salomonsky
Architects



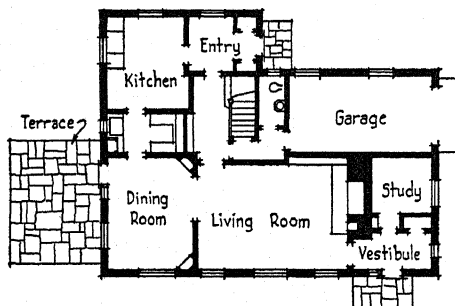
SECOND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

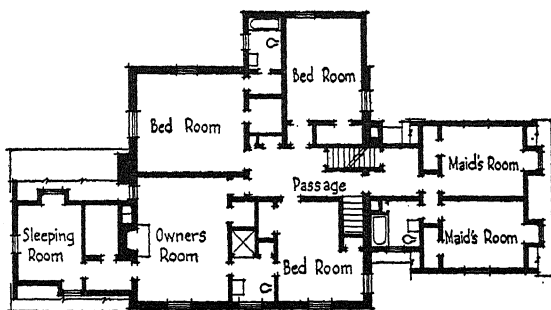


FIRST FLOOR PLAN

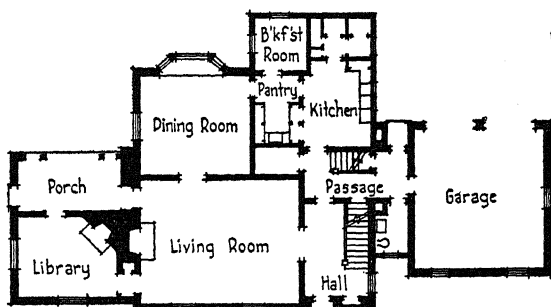
(B) ENGLISH COTTAGE
House of Stanley F. Withe
Sunnyslope Farm
Collinsville, Conn.
Raymond J. Percival, Architect

FIG. 133. TWO AMERICAN HOUSE PLANS

SECOND FLOOR PLAN

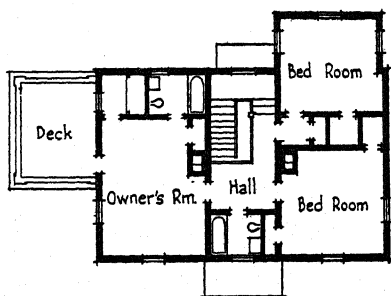


③ LARGE GEORGIAN
House of Mrs. Nelson Rogers
Shaker Heights
Cleveland, Ohio
Dunn and Copper, Architects

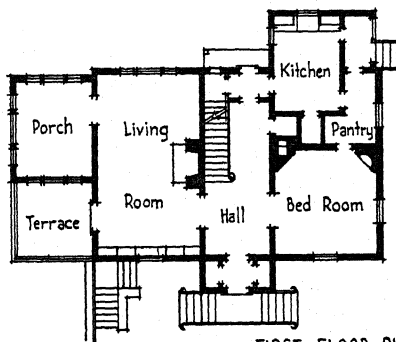


FIRST FLOOR PLAN

SECOND FLOOR PLAN

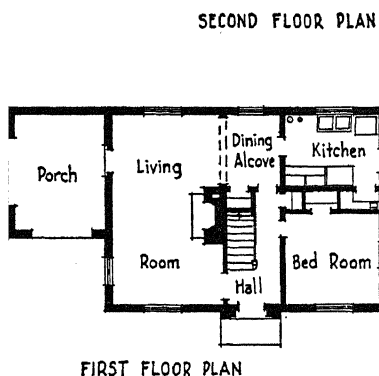


④ MEDIUM COLONIAL
House of Miss Elizabeth C. Malady
Fieldston, New York
Dwight James Baum, Architect

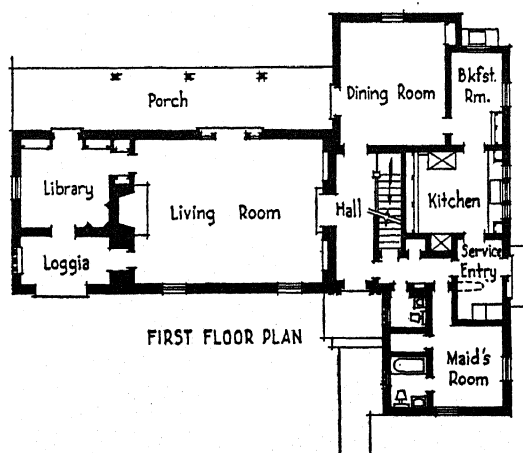
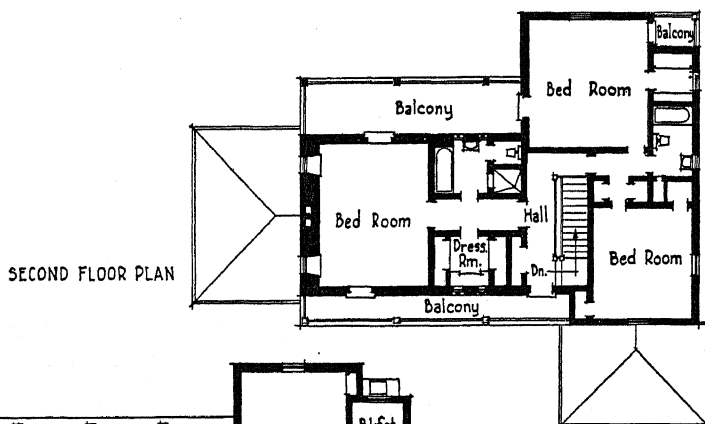


FIRST FLOOR PLAN

FIG. 134. TWO AMERICAN HOUSE PLANS



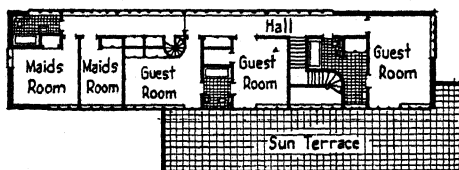
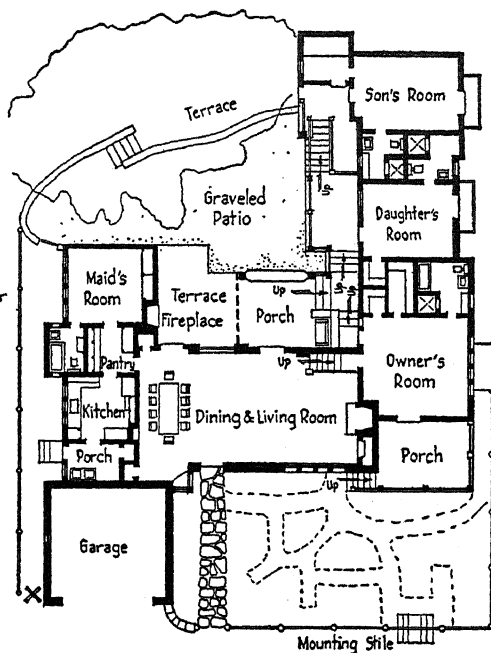
(E) TYPICAL SMALL COTTAGE
Designed for Architect's Small House
Service Bureau, New England Division
G. F. Marlowe, Architect



(F) TWO-STORY SPANISH
House of Clarence P. Day
San Marino, California
H. Roy Kelley, Architect

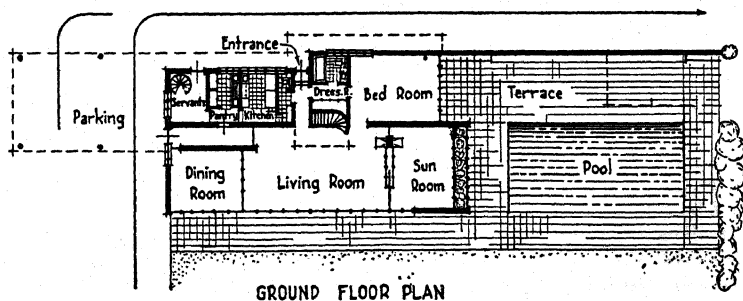
FIG. 135. TWO AMERICAN HOUSE PLANS

- (G) SPANISH BUNGALOW**
House of Mr and Mrs Sol Lesser
Santa Monica, California
Heth Wharton, Architect



SECOND FLOOR PLAN

- (H) MODERN HOUSE**
House for Mrs Homer H. Johnson, Pinehurst, N. C.
Claus and Daub, Architects



GROUND FLOOR PLAN

FIG. 136. TWO AMERICAN HOUSE PLANS

We shall here concern ourselves more with modern American houses. Figs. 133-139 show the wide variety of modern planning and design that may occur. All of these plans are intrinsically American, far more so than the architectural embellishment of the exterior, which is derived from a number of styles and influences.¹⁰ There are certain things in common in the plans. Except in the warmer southern sections where central heating is more or less unnecessary the house has a cellar containing the heating plant, laundry facilities, and occasionally game rooms or storage space. The essential upstairs rooms are a common or living room, a dining room, a kitchen, bed rooms, and one or more baths. But what is provided can best be observed by analysis of the plans presented, all of which are excellent examples of good contemporary domestic architecture.

Plans vary in shape from rectangular, which is the most eco-

¹⁰ These plans consist of:

A. House of Mr. Howard L. Wilson, Scarsdale, N. Y. Edgar and Verna Cook Salomonsky, Architects. From *House Beautiful*, July 1930. A typical English plan.

B. House of Stanley F. Withe, Sunnyslope Farm, Collinsville, Conn. Raymond J. Percival, Architect. From *The Architectural Record*, April 1931. A more simple English cottage with a plain roof.

C. House of Mrs. Nelson Rogers, Shaker Heights, Cleveland, Ohio. Dunn & Copper, Architects. From *House Beautiful*, September 1931. A large Georgian with main house and wings.

D. House of Miss Elizabeth C. Malady, Fieldston, New York. Dwight James Baum, Architect. Honorable mention, Two-story Class, Better Homes in America Architectural Competition. From *The Architectural Record*, April 1931. A medium two-story balanced Colonial.

E. A 5-room house for a cost of \$4,200. G. F. Marlowe, Architect. Designed for Architect's Small House Service Bureau, New England Division. From *The Architectural Record*, December 1931. A typical small cottage about the minimum for the class.

F. House of Mr. Clarence P. Day, San Marino, California. H. Roy Kelley, Architect. From *House Beautiful*, September 1931. A medium two-story Spanish.

G. House of Mr. and Mrs. Sol Lesser, Santa Monica, California. Heth Wharton, Architect. Honorable mention in Third *House Beautiful* Small House Competition. From *House Beautiful*, January 1931. An elaborate Spanish bungalow.

H. House for Mrs. Homer H. Johnson, Pinehurst, N. C. Clauss & Daub, Architects. From *House Beautiful*, October 1931. A modern plan.

A house such as E is available presumably to groups with incomes in excess of \$3,000 per annum and even the largest house here shown could be owned and operated on an income of \$20,000. These are definitely middle-class incomes.



FIG. 137. ELEVATIONS, HOUSES B AND D, FIGS. 133 AND 134

nomical and which customarily is symmetrical, with a hall in the middle leading to rooms either side, a remnant of early American planning (D, E), — to the Tee shape (F) or the El, — another remnant of early American (B) — to a completely irregular plan directed to the needs of the individual family without any regard for precedent (A, C, G). The latter are more expensive to build but have a picturesqueness which is much sought. In a civilization which has accepted almost everything else as standardized, "original" houses are desired.

Homes are almost always of two stories (A, C, D, F), as the bungalow except for a minimum house occupies too much of the lot area and costs more to build. In California, however, the Spanish bungalow (G) is more common and is employed even for quite large homes. Occasionally the second story is really a half story under the roof with rooms with dormer windows, in which case in any small house the arrangement is quite standard, consisting of two rooms with a small hall and bath between (B, E). On entering the hall, although suburbanites now can afford to waste some heat on opening the door in winter, there is customarily some provision in the nature of a vestibule. Entry directly to the living room is relatively rare. The hall may be a large room with definite living and decorative possibilities, with the stairs exposed and given some decorative treatment (A, C, D, F), or smaller, in reality only a service hall (E). Occasionally it is a mere vestibule with the stairs in a separate hall (B). The omission of the hall is properly permissible only when heating is not important, as in the Californian architecture, (G). There is a tendency, except when definite Colonial or Georgian effect is desired, to reduce the hall in contemporary buildings as being comparatively a useless room.

In most examples the living room is the largest room in the house and serves as the social center of the home. Almost universally it has a fireplace, unnecessary except in spring and fall, when the central plant is not in operation, but retained to lend an atmosphere of "hominess." In the living room are overstuffed chairs, tables, a number of lamps, bookcases, the

radio, smoking utensils. If a second room for living purposes is added it is smaller and takes the form of a den alcove or library (B, C, F).

Although the suburban dining room is used less than any



FIG. 138. ELEVATION, HOUSE E, FIG. 135

other room in the house it is seldom eliminated in the detached dwelling. It appears in the majority of our plans (A, B, C, D, F). If it is to be eliminated the living room is enlarged (G) and used for meals but this sort of service requires at present sophistication and ability to handle social emergencies smoothly. The more general treatment is to provide a dining alcove (E)

or a breakfast room or breakfast nook in the kitchen (C, F). Some larger houses have a breakfast room oriented for morning sun in addition to the dining room but this cannot be regarded as typical. In the dining room are a table, a buffet, built-in cabinets of various sorts for linen, silver, and china, base plugs for electric toaster, egg boiler, waffle iron.

The kitchen appears in almost every detached house and is the most modern room. Its floor is tiled or covered with rubber composition or linoleum. It has white or colored sinks, built-in cabinets with every possible convenience, a stove either electric

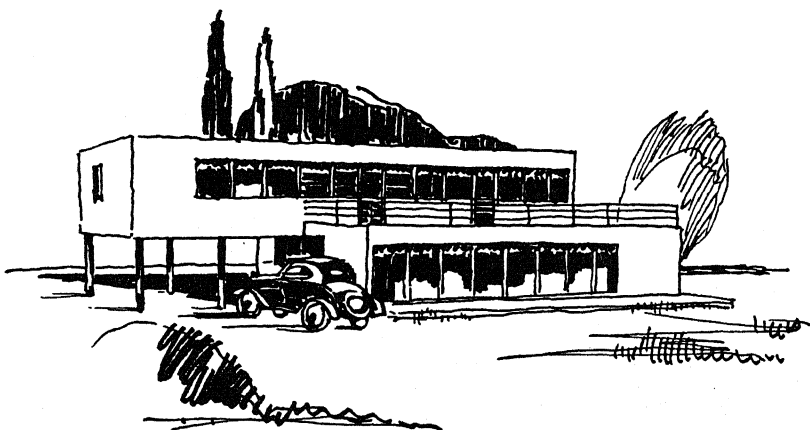


FIG. 139. ELEVATION, HOUSE H, FIG. 136

or gas, a built-in ironing board, possibly a washing machine, a dish-washing machine, electric mixers and orange squeezers. An electric refrigerator is rapidly becoming a part of its standard equipment and this refrigerator not only keeps things cold and preserved but actually makes frozen dishes. A large number of kitchens are separated from the dining room by a small service pantry (A, B, C, D, F, G).

Upstairs bed rooms are likely to be of only fair size, approximately square, and each provided with a closet. Occasionally a very large master's room is provided over the living room and of the same size (D). There will be one or two bathrooms on this floor depending on the number of bed rooms (B, D, E)

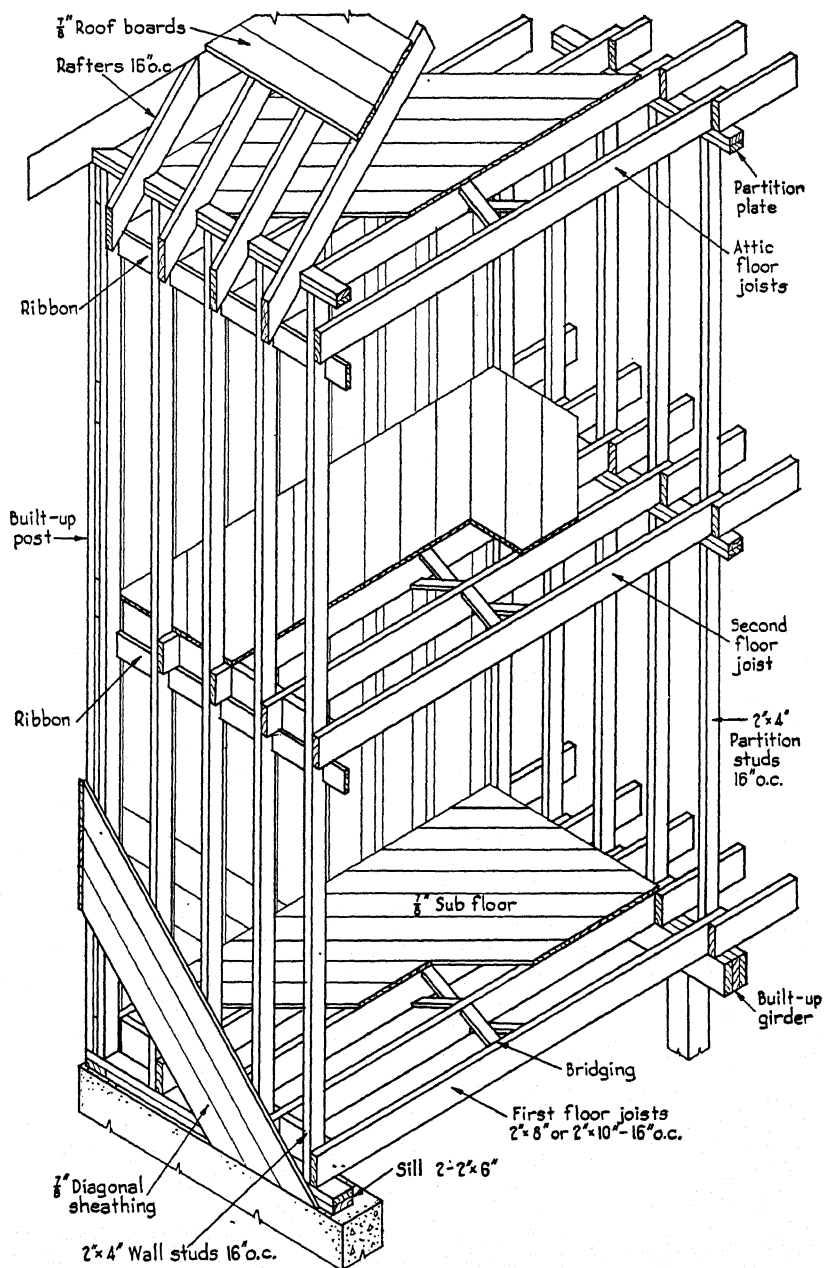


FIG. 140. DETAILS, AMERICAN BALLOON FRAME CONSTRUCTION

although the tendency seems to be towards two. Occasionally we find a master's suite consisting of bed room, dressing room, and bath (F) ; more often a bath separately attached to the master's bed room (D) ; rarely a bathroom for each bed room (G). In a number of cases a downstairs room containing water-closet and lavatory is provided (B, C, F). The bathroom is quite generally tiled at least halfway from the floor, provided with some sort of non-skidding floor tile, and contains a tub, shower, or both, a water-closet, wash bowl, a medicine cabinet with mirror above the lavatory. A linen closet stands somewhere near.

All of the rooms have floors of narrow hardwood boards and usually are partially covered with rugs. The walls are papered or of painted or textured plaster. Fireplaces are seldom found upstairs and are definitely a luxury (A, C). The outdoor facilities of the plan have been neglected but are now being studied. A porch appears in A, C, E, F, and an enclosed sun porch in D ; but it will be noted that these seldom occupy the front position of the Greek revival. California houses frequently have a patio (G). A terrace is not uncommon, with brick floor (B, D). Outdoor stairs are suitable only in very good climates (G) and the same applies, so far as utility is concerned, to outdoor balconies (F, G). The provision of a fireplace outdoors in the patio (G) is clearly rare but opens up interesting possibilities.

Every house has a garage, for at least one automobile. Usually it is attached to the house (A, B, C), often under the house (B), and frequently forms the base for a servants' wing above (C). But there are apparently quite as many detached garages even in good houses (D, E, F).

Thus the plan of the typical high-class suburban house with its common variations. In some quarters there is now an attempt at radical modernity, concerned principally with better provision of light and air and the use of more terraces and roof spaces. Such a plan (H) is shown to illustrate the tendency, which cannot be said to have greatly changed current convention at the date of writing. This modern plan shows a number of features which of course are more elaborate than can be ex-

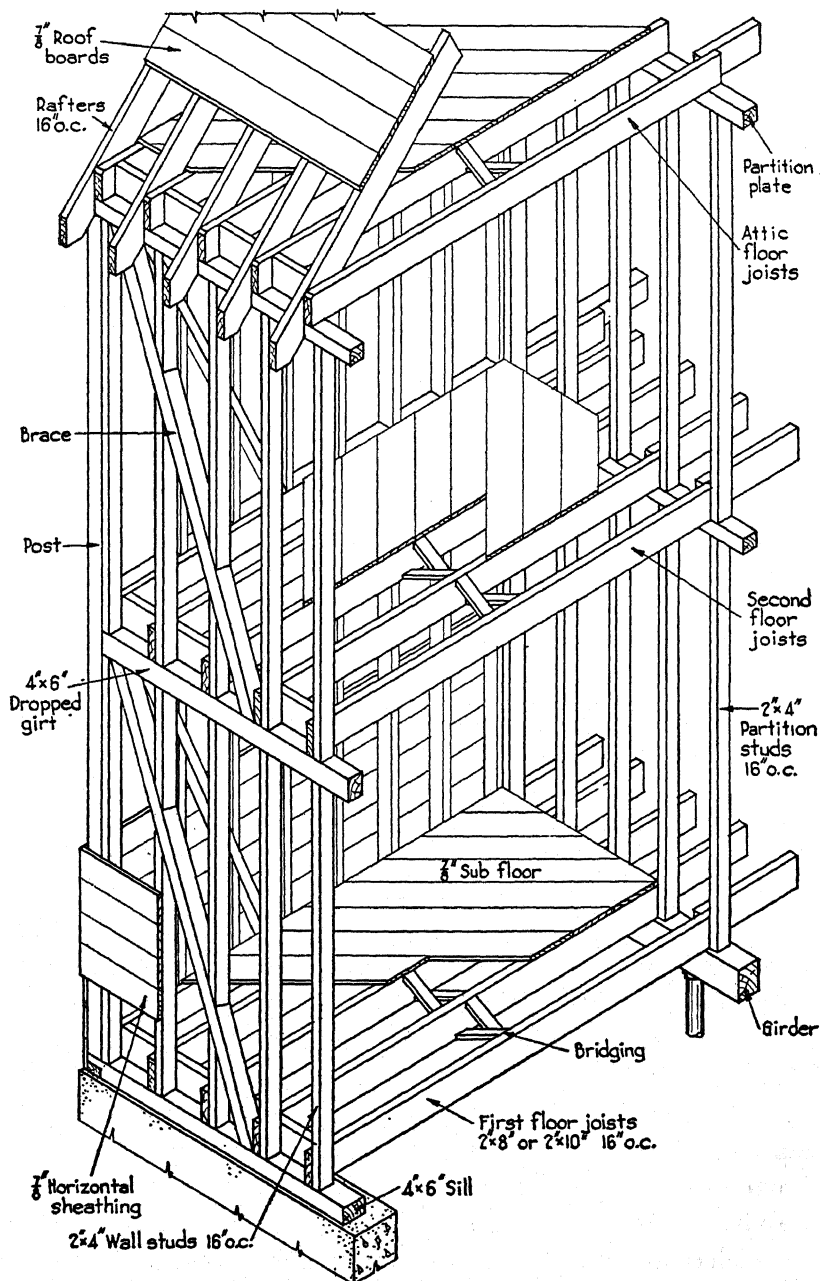


FIG. 141. DETAILS, AMERICAN BRACED FRAME CONSTRUCTION

pected in the average house, such as the pool on the terrace. However, it illustrates very nicely the chief features of the modern house — large terrace spaces on which the family can do a good deal of outdoor living; grouping of windows in long bays all of glass, affording a great amount of light as shows clearly in the living room of the lower floor and the hall of the upper floor; arrangement of the dining room in combination with the living room as we have seen in some more conventional plans but with provision of a thin movable partition something like the Japanese screen which makes the two rooms really separate when desired but permits their being thrown into one when occasion demands; treatment of the stair as a mere convenience, thus diminishing hall space; elimination of the fireplace as entirely unnecessary.

The plan is a fine example of high-grade modern planning and comes nearer to resembling good work in Europe than is usual with American modern plans.

Let us now consider suburban construction. It is ten to one of wood frame covered on the exterior either with clapboards, shingles, stucco, or a single layer of brick. Details of various types appear in Figs. 140–143. On the interior there is lath or plaster and the lath may be of heat-insulating material to cut down the fuel bill. The chimney is of brick. The whole is built in accordance with law on a foundation of concrete or concrete block set below frost line. The roof framing is of wood, rafters, plank, and then wood, asbestos or asphalt shingles, clay tile or quarried slate. Windows are either double-hung or casement, the latter of wood or metal. Doors are of wood, floors of wood, furniture of wood, trim of wood. In the basement the furnace burns either coal, oil, or gas. The fire is thermostatically regulated by a device in certain rooms which keeps them approximately at constant temperature. In the furnace box there may be a boiler which heats water or boils it to steam, in either of which cases the heated liquid is conveyed by pipes to radiators placed in nearly every room. Occasionally the heating is by passing air across the fire in ducts and conveying it by convec-

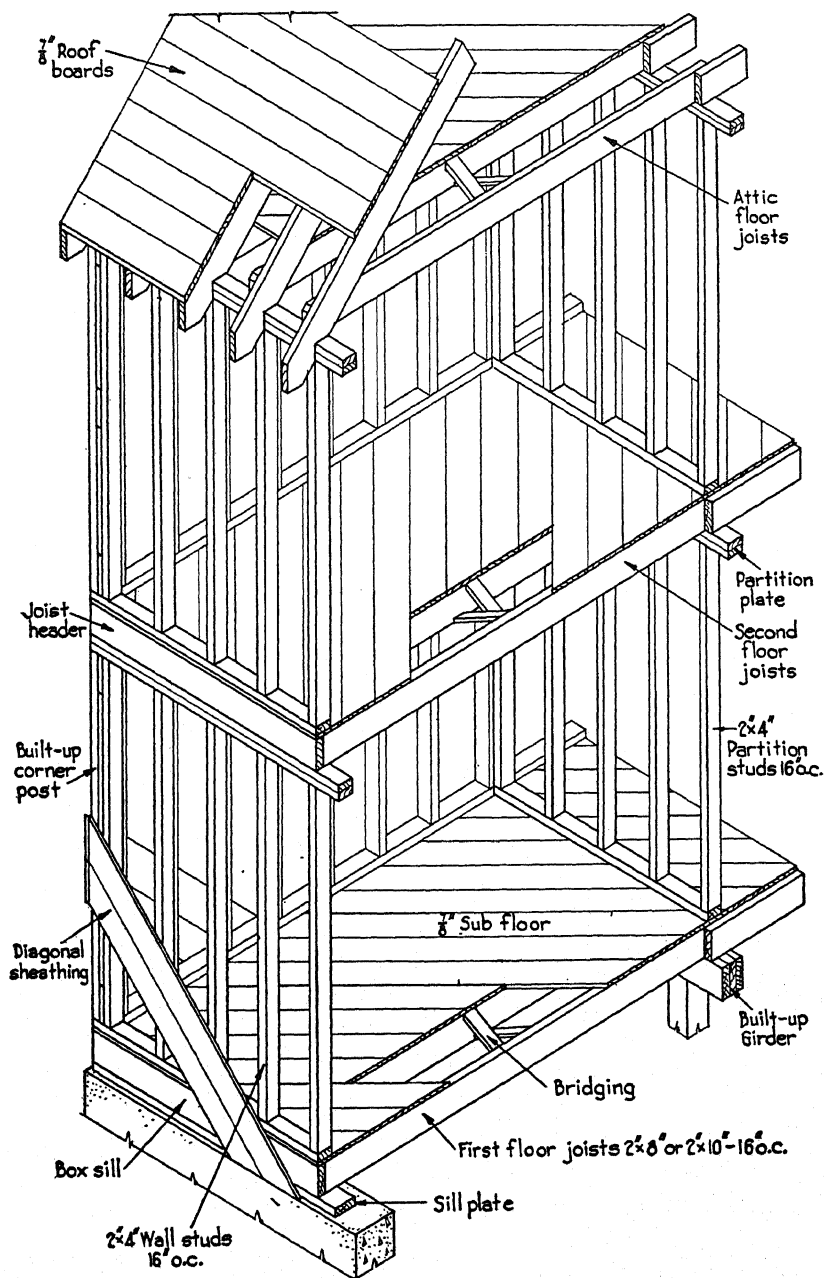


FIG. 142. DETAILS, AMERICAN PLATFORM FRAME CONSTRUCTION

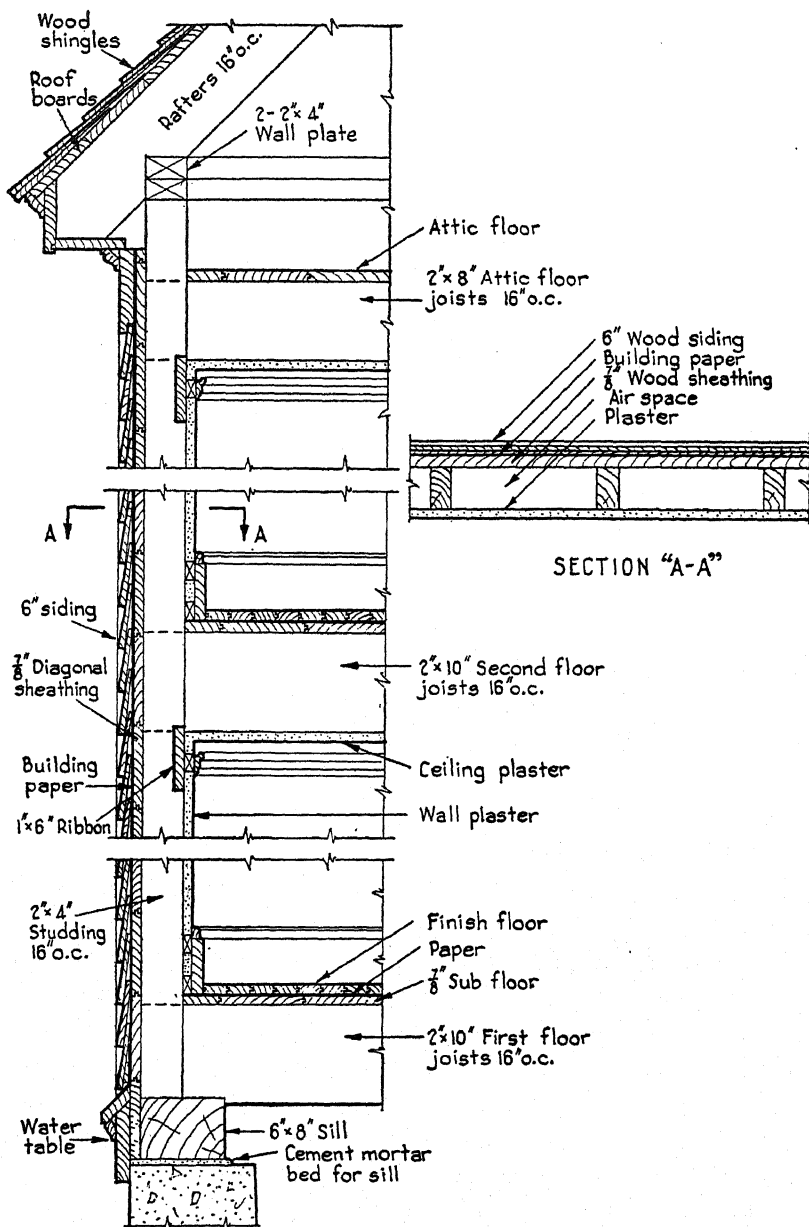
tion or by forced draught to the rooms. The house is almost without exception kept too warm during the winter and only now is the American beginning to think of keeping the humidity of the air within healthful limits of dampness, by adding water to the dessicated atmosphere. The house is a maze of wires and pipes, buried within the walls, pipes for steam, gas, hot and cold water, conduits for electric wires, telephone wires here and there, base plugs or other electric outlets everywhere. Sunlight is imitated in the home by the ultra-violet lamp, admitted during the day through specially formulated glass in the windows.

But it is time to turn to our man, who is rolling restlessly on his bed in anticipation of the alarm which will shortly be rung by an electric clock operated by a synchronous motor. The bell rings and our man rises. His room is reasonably cold for he opens his windows wide at night. His wife, occupying a twin bed in the same room, gets up at the same time, for the family has found the servant problem increasingly difficult and either has no servants or else none in residence,¹¹ so it devolves upon the wife to prepare breakfast.

The man goes to the bathroom and from the taps draws an ample supply of hot water for shaving, which he does with some form of safety razor and a tube, stick, or jar of commercial soap preparation particularly developed for the purpose. The brushing of teeth is a normal part of the morning's hygiene but the daily morning bath is probably not customary.

Descending the stairs, our man goes to the cellar and tends his furnace, removing ashes and adding coal unless he has an automatic stoker, or a gas or oil furnace which requires no attention. Then he goes to his front step and picks up the morning newspaper, which has been delivered at an early hour. This he takes to the breakfast table with him and although he dines with the family he cannot be said to breakfast with them, his entire attention being taken up with the news. This newspaper con-

¹¹ The custom of having girls come in after breakfast to do the heavier housework, cook and serve dinner, and then depart, is increasing.



VERTICAL SECTION

FIG. 143. CROSS-SECTION, TYPICAL AMERICAN HOUSE CONSTRUCTION

tains everything that has happened in the world since the last evening edition and up to three or four in the morning.

American breakfasts seem to be getting simpler. They begin almost uniformly with fruit, then a cereal, more often than not uncooked, packaged wheat or bran, eaten with cream and sugar, toast and coffee electrically made on the dining-room table. Breakfast, like most of our man's meals, is eaten hurriedly, and with a hasty kiss of good-by he is away to the office, which he reaches either by train, electric street car, subway, or motor car. If by train he arrives in a large concourse and not uncommonly walks from train side to office building without ever stepping out of doors. If he motors to work he may waste time trying to find a place to park his motor car but more likely runs it into a huge garage with circular ramps whence he walks to the office. In the subway he is jostled by thousands of fellow workers.

Some time between twelve and one our man goes to lunch, too often, be it said, a hastily eaten meal at a drugstore counter, where he drinks a chocolate malted milk and eats a sandwich. The class which eats a leisurely and contemplative lunch at a table and not at a counter is steadily diminishing. After luncheon he returns to the office and works till about five, when he may repair to his club and take exercise of one sort or another in a building which is equipped far more conveniently and luxuriously than the finest Roman bath. Then the man goes home to dinner.

Meanwhile the wife gets the children off to school. The telephone rings and her grocer takes her daily order. The remainder of her work is largely executive, arrangement of laundry to be sent out, checking of bills, but she washes the dishes or minor clothing by machinery, makes the beds, uses the vacuum cleaner, dusts. If she chooses she can so organize her work that she has most of the afternoon to her own devices.

The children go to a public school where at present there is a serious clash between education for enjoyment and appreciation of life and vocational training.

Our family dines together at home. Soup and fish courses are

not common. The meal customarily begins with a meat, roast or broiled, potatoes in some form, vegetables (one or two, preferably one fresh), possibly a salad, and a simple dessert. The major feasts such as Thanksgiving are celebrated by over-eating as in the past. Much of the food is previously prepared and it is possible now to buy canned hams, chickens, roasts, and frozen meats and vegetables, fruits, and fish, all of which need but a few minutes' cooking and all of which are never out of season. The labor and art of cookery is apparently on the decline.

After dinner it is ten to one that the family will listen to the radio, which brings free into the home a *mélange* of music, popular, classic, the finest symphony orchestras, the best dance bands, speeches, echoes of political campaigns, radio drama, humor, whatever can be put down as entertainment.

Americans are apparently becoming less and less able to provide their own amusement and if the radio is insufficient, the family may go to the theater, the opera, or more frequently the low-priced cinema, where a glamorous life is portrayed in moving pictures accompanied by voice. The thrill of professional sports witnessed by huge crowds has almost entirely replaced that of individual participation. Even at dinner parties the dearth of conversation is shown by the fact that even close friends repair almost immediately after dinner to the bridge or ping pong table.

Our man does not work Sundays or Saturday afternoons but spends them in minor domestic repairs, in golf, or in long motor jaunts. Moreover, he has very generally a two-week vacation from business every year and almost invariably the family adjourns to some other spot, usually by motor car, choosing a lake or ocean site where swimming may be found. Americans are inveterate travelers restlessly seeking new sights, to which they scarcely give any attention, being engrossed with unfavorable comparison with home surroundings. Our man reads his newspaper incessantly. He owns a large number of books and has read many of them but usually at a too early age. The growth of

lending libraries where new books may be obtained for a few cents a day has done much to offset the cost of books. Apparently book reading is increasing but the popular subjects are those which lead away from the drabness of present life and plunge the reader into the better days of cape-and-sword romance, gentle love stories, two-gun westerns, or the solution of mysteries, principally murders, the latter being the chief literary fare of the present time.

All of this man's food is obtained by him with little real consciousness of its production. He merely reaches for a telephone and orders it. So too with his clothing, his fuel, his supplies of all kinds. He is far away from all the basic facts. Even his children are brought into the world with little travail although at high cost.

He ¹² is little acquainted with his government and does not bother to vote except at elections when a big issue such as prohibition or the punishment of the incumbent party for an economic depression drives him to the polls. He is heavily taxed and complains about it but has no real conception of what his taxes go for. He uses his highways, his post, his water, he lies in the lap of security through police and fire departments, without any thought of them until something goes scandalously wrong. It is doubtful whether his opinion on a League of Nations, a Reconstruction Finance Corporation, represents any serious effort to obtain truthful data on the subject or any definite reflection on the data once provided. Indeed he is alarmingly uninterested in all these things and reacts *en masse*.¹³

¹² Including his wife, to whom equal suffrage and a nearly complete degree of legal and economic equality has been extended.

¹³ There is some reason to doubt whether or not the man of other centuries cared much more about the vital things that were happening around him. Wars stir up certain mass patriotisms; but in general it is quite safe to assume that the average colonist cared quite as little about a tax on tea as do contemporary Americans about imperialism and the ultimate status of the Philippines. The few vocal people who do care have apparently always been able to sway the rest of the population. It remains to be seen whether radio will change this. Certainly its force in the political campaign is already tremendous, permitting as it does every citizen to hear the voices of the leaders of thought rather than those of their lieutenants.

The life of the rich man in the suburb or on the estate differs in quantity rather than in quality from that of our suburban man. He has more cars but not better. His food and clothing are probably no better. He can command better seats at the theater but sees the same performance. His radio brings him the same sounds. The wealth margin permits him certain luxuries such as membership in clubs whose principal virtue is exclusiveness, a steam yacht, a string of racing horses, unnecessary jewelry, for which the average man feels no need, servants to lighten the already light domestic load, the indulgence of hobbies of collecting antiques or first editions. All this is but a small outlet for amassed wealth, and we find the rich American seeking his marginal life in other fields, public benefaction, educational endowments, political honors. He works almost as many hours and goes through much the same routine in these occupations as in amassing his fortune and his margin of luxury is much less than it has been in any other period.

RURAL TOWN HOMES

The previous somewhat extended discussion of the suburb, its house and its habits, will cover also life in the true country town as the same general characteristics of American life exist there in little less degree. The houses are not unlike those of the suburb. Perhaps they pay less attention to the elegancies of architecture and more to comfort. Impressing one's neighbors with a façade is unimportant when everybody in town knows just about how one lives within the walls.

The country town is not necessarily small and may range from the New England village to the relatively large Middle Western town. The chief characteristic which distinguishes it from the suburb is that it is self-contained. Its people do not go elsewhere to work or play. It may have some small industry, a flour mill, a concrete tile factory. It usually has only a moderate amount of train service, perhaps one or two passenger trains a day. The population is dependent upon the farmer for its principal support. This population consists of the keepers of

various stores, a few railroad employees, bankers, lawyers, doctors, ministers, undertakers, and the various laborers necessary to supply the needs and pleasures of this population. When the nearby farmers are in distress so, too, is the town.

The country town has been somewhat modified of late years by the advent of the automobile, the development of fine highways, and the radio. As an example let us look for a moment at a very characteristic small town of the Middle West, 150 miles from the first real urban center, with a population of say 3,000 people. In itself this town was a center for the surrounding farming population. Ten years ago the farmer already often had an automobile and came to town for his amusement. The shopkeeper was the real backbone of the community and his only worry was the competition of the mail order house.

The community was almost entirely self-reliant. The houses were nearly all good, of varying sizes, to be sure, but seldom less than five good-sized rooms. These houses were spread on large lawns, often with only three homes facing the frontage of a 400-foot block and never more than five. The blocks were on a checker-board plan with no scheme of contour or beauty. The architecture was undistinguished but not bad, and the town as a whole was pretty.

Neighborliness was a characteristic of the town. The poorest man called the richest by his first name. Everybody knew everything that happened. Amusements were visits or parties or church festivals. The circus was an awaited summer event. Intellectual entertainment was provided by summer and winter lyceum courses. The local base-ball club's fortunes were followed with interest. Visits to the "city" were rare and only a few of the wealthier people even bought their clothing there.

Physically the small town has not changed its appearance much to this day. Socially there have been changes. The highway and the improvement of the automobile make the city a matter of a four hours' drive, and bus lines have increased the possibilities of going there. At low cost a citizen can start with his family at dawn, drive to the city, have nearly a full shopping

day, go to the latest cinema or even a matinee, and return not long after dark. Shopping in the town grows less and is more strictly confined to daily needs and small goods of standard type, such as razor blades, tooth-paste, and thread. Any woman naturally prefers the greater assortment of the city when purchasing dress goods, and initiative in the small-town store keeper is ceasing to matter. It is only a question of time when large retail stores will furnish the town with weekly truck delivery over a regular route. The radio has brought into the home talent of a higher quality than can be heard at the lyceum. In every way the town dweller is reaching towards urban sophistication and is less self-sufficient than he used to be. His home is wired for electricity and he possesses nearly as many domestic conveniences as the dweller in the suburbs. He still retains the asset of real neighborliness and friendliness. But his home is rapidly conforming to the suburban type.

On the wide plains where cities are farther apart, and towns are at long distances from each other, town life still prevails. These towns are ugly and young and not far from the pioneer stage. The contrast between such a town and the village green of a really old New England town is striking. The latter has long ago made the complete transition we have been describing and become really a tag of the city — the former, according to its location, is in the throes of that transition or is still unaffected. However, it is not unreasonable to suppose that with increasingly rapid transport it too will come under the influence of city life and real town life will be a thing of the past — a change which will be a social tragedy.

FARM HOMES

Farm homes vary more in character than perhaps any other group, even those of the city. At the low end of the scale are farms such as frequently exist in states like Montana where the farmers are definitely poor. Crops are thin and uncertain. The buildings are often new and very crude, resembling the home of the pioneer, although probably built with sawed lumber

rather than logs. One or two rooms may suffice. Cooking is done on a wood range. Water is pumped from a well and at best is brought to the house through a pump in the kitchen. Heat is by stoves in each room or in the principal rooms, and the bed rooms are sometimes unheated. Lighting is still by the kerosene lamp. There is no indoor toilet and the privy is the common sanitary convenience. But it should be noted that an isolated privy on a farm belonging to a decent family may very well be more sanitary than many installations of city plumbing.

Life on such a farm is arduous. The stock are so important that they are housed in barns often built better than the house. The family rises before daybreak and puts in a hard day's work with the chores and in the fields before city people have had breakfast. The work continues throughout the heat of the summer day and when dusk falls the tired family goes to bed. The work is shared by man and wife pretty fairly. There is little time or energy left for beautifying their surroundings. Children have a little schooling in the district schools and in some cases are sent to town to high school, where often they appreciate their opportunities more than city children. But in the last analysis the life is near to that of the true peasant and must be recognized as such.

On the wide farms of the Middle West conditions are very different. The land is extensive and fertile. Machinery is used in the harvest and in ploughing, seeding, milking. Until recently this type of farmer has been prosperous. He has built a fairly large establishment with a substantial house, barns, sheds, fences in good repair, a little grass plot in front of his door, a clean dirt court at the side. Electricity has come to the farm either from a central utility or from the farmer's own gasoline operated generator. He often has more appliances than a man of corresponding income in the city. He has a telephone and a motor car; and the highway outside his door, which once used to end for his horse and him at the nearest town, now takes him quickly to the large city. His radio entertains him at night and he has a little spare time for recreation,

for culture, for political action. Yet with all these things he seems to have lost the economic independence which was once the farmer's strongest characteristic. He is dependent upon banks and even upon Federal relief. He practises little domestic industry and his clothing and many of his foods are store supplied. His standard of living is higher but his self-reliance lower.

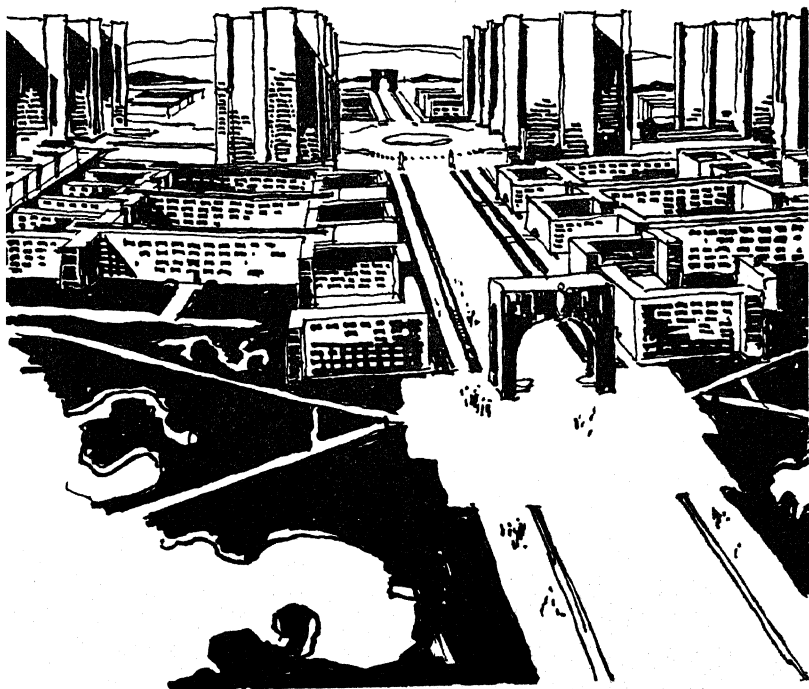


FIG. 144. A CITY OF TOMORROW
After Le Corbusier

Finally, the eastern or New England farm is today almost not a farm at all. Its crops are meager except for fine vegetables which the farmer sells in the city market, often trucking them there himself. The home is scarcely distinguishable from a suburban one. Often it is an old building of architectural charm, which the farmer has kept up. This sort of farmer may quite as well as not be a retired city man. He retains intellectual

interests and often takes a metropolitan daily newspaper, and a number of the "quality group" of magazines. There is little to differentiate him from the suburbanite except his occupation and the fact that transport is to him a convenience rather than a necessity, as he is engaged in primary economic activity.

There are slum farms in every section of the country and they most nearly resemble those of the poor group first described. There are elegant ranches in sections where the poor farm is characteristic. But these three types of farm homes on the whole represent the rural conditions of today. Just as the small rural town is becoming a sort of satellite of the city so, too, the farmer is becoming more dependent upon the town and in turn upon the city.

Thus the American home of today may broadly be described. In a true evolutionary picture the two types that stand out are the apartment and the highly mechanized modern suburban home. These both represent marked physical advance. Esthetically and socially the advance is more questionable. What they may be twenty-five or fifty years hence we have not the temerity to predict. The tendency seems to be to extend the urban influence indefinitely until our homes may be of the kind described by Le Corbusier.¹⁴ On the other hand there may be a serious revolt against the drawbacks of city life and we may go thronging back to the freer home of the country. We may be sure there will be change. The intimations of this change are all about us if we can see past our noses. A Rip Van Winkle who could sleep fifty years would probably find the home of 1983 more different from that of 1933 than this is from the one of 1880. For the home is never static.

¹⁴ Le Corbusier, "The City of Tomorrow" (Payson & Clarke Ltd., New York).

CHAPTER XXII

Modernistic Homes

DEMONSTRATION of the fact that the home is not static may be afforded by the movement throughout the Western civilizations towards the "modernistic" house. This movement has been hinted at in previous chapters but has not been afforded any full treatment. Justification for this apparent neglect may readily be found. The tourist today who wishes to see modernistic homes, even in Germany where they are most common, must use considerable discretion if he wishes to see any number of them within a narrow compass of travel. Even Stuttgart, Dessau, and Hamburg, where the movement has enjoyed a full expansion, are not conspicuously modern. Consequently it may fairly be concluded that these homes do not form any considerable representation of the typical life of today.

On the other hand, this movement has considerable force and much merit. Whether it will soon die out or expand until it dominates house esthetics of the future cannot now confidently be predicted. But the movement has progressed far enough so that a complete consideration of the homes of mankind may not utterly ignore it.

Like the changes in the home brought about by Jones and Wren, this movement, too, is essentially an architect's and an intellectual's contribution. It began in Europe even before the War and developed its full force in the early postwar years. Since then its course has been one of expansion rather than of change.

Although the full crystallization of the ideas back of

modernism has taken place abroad and above all in Germany, it is an open question whether two Americans did not start the trend of thought which led to the European manifestation. Louis Sullivan, who was primarily a designer of detail, certainly never intellectualized his ideas into the present conception. He undoubtedly, however, had an influence on Frank Lloyd Wright. Wright is a man who has never been sufficiently appreciated in his own land but who has been highly respected by Europeans for many years. Although the final development of the European style has little resemblance to the work of Wright, the intermediate stages were very similar to his and in many countries the present status of the art is much like the developed Wright form.

Be that as it may, we find throughout Western Europe and particularly in Central Europe, France, Holland, and Belgium, a style which may truly be called international. A few British architects, too, have come under the influence of the style and have produced their own contribution. Still fewer American architects are working along the same lines with perhaps less individuality. Although, as we shall shortly indicate, there are details which serve to differentiate the modernistic houses of various countries, a quick examination of the illustrations accompanying this chapter will show how truly universal are the fundamentals.

The intellectual basis of the modernistic house may most clearly be considered in separate aspects, as it affects plan, elevation, decoration, and furnishings. At the back of all the thought, consciously or subconsciously, is the idea that we live in a machine age and that the house should be a machine for living. Current therapeutics holds that the ultra-violet rays of sunlight are beneficial and intellectual architecture concludes that this sun should be freely admitted. Health considerations dictate that so far as possible humans should live outdoors and intellectual architecture responds with provision of ample terraces and other outdoor spaces formally attached to the dwelling. The laws of design provide that voids and solids should be

so placed that one or the other completely dominates. The average Northern home has had about an equal proportion of walls and openings. In the hot countries large areas of wall space have dominated the relatively small windows and practical considerations have been satisfied by the laws of design. In the North, intellectual architecture, realizing the impossibility of such a relation, reverses the procedure and causes the openings to dominate the walls although on the street side the walls may be blank to keep out the street noises and dirt. Economics indicates that some rooms of a house exist to be used only for relatively short periods of the day and intellectual architecture develops a plan whereby rooms may be converted or expanded by the use of the sliding partition — a treatment long known by the Japanese. Finally, economics again tells us that our houses cost too much and in the back of the minds of the intellectual designers is the thought that their designs should be suitable for the use of mass-fabricated parts even if these parts are not now available.

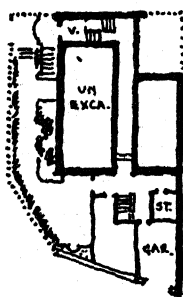
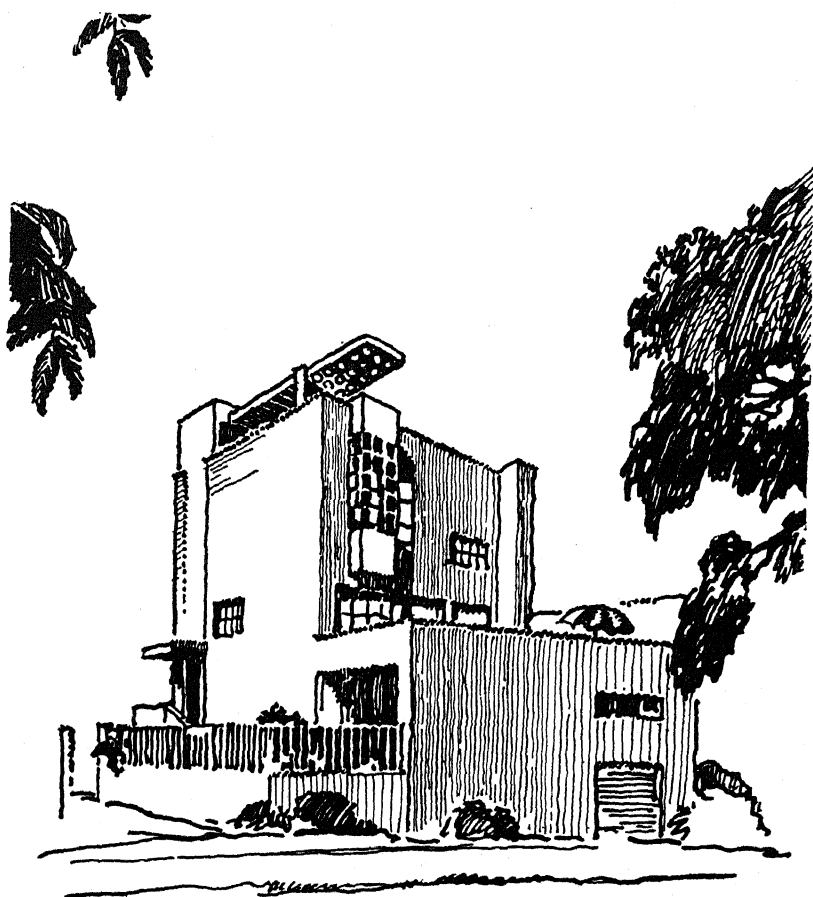
The modern plan, therefore, provides relatively fewer rooms than heretofore, although it seeks to make the rooms convertible. It supplies many windows in order to admit as much light and air as possible, a function supplemented by the ability to throw open almost the whole house. Terraces are an important architectural adjunct. Rectangularity is dictated by the future possibilities of mass production. Built-in furniture is useful and may properly be made part of the decorative scheme.

In elevation the preponderance of voids over solids is marked. Rectangularity indicates the flat roof which is often overhung to present a strong horizontal line. Horizontality, in fact, is the backbone of the successful modern design, as indeed it has been of most, but not all, good domestic styles. There is a distinct tendency toward the use of color rather than form for detail, to the stripping of detail to the essentials. The German architects, realizing that there has been a real recrudescence of metal working, use spots of exquisitely wrought, modernistically designed iron. The French, who seem to have been in part infected

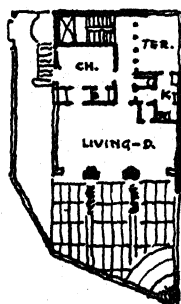
by the spirit of the ship, have stripped their detail further and are fond, for example, of a flat band of plain iron used as a railing. There is a distinct tendency toward the use of a larger unit of construction and hence of design so that the mass itself is less frequently broken up. This tendency away from the brick unit toward a much larger unit has been facilitated by the growth of the use of concrete. The Dutch, who make the most beautiful brick in the world, have resolutely and probably properly refused to abandon their native material. The result has been the working out of details in brick that are fascinating in themselves but that are often malapropos when considered with the ensemble. Dutch architecture is somewhat pervaded by tricks of detail, rounded elements, queer spires, and the like. The effect of the Dutch East Indies is also apparent in the Dutch style with its details from Java, Sumatra, Borneo. Thus the Dutch modernistic house offers the widest departure from what we have called an international style.

Interiors tend to be theatrical. Well-designed modernistic furniture is comfortable and often beautiful. The individual use of panels of beautiful wood for decoration is often striking. But the effect to the eye, perhaps clouded by tradition, is, in the good examples, usually too striking, too intellectually right, too little like a home. The bad examples are, of course, horrible. It is only fair to say that the same theatrical effect may be produced by excessive adherence to period detail. An Early American room, so carefully worked out by a decorator that the position of the furniture is marked on the floor, is not a homelike room. However, the Early American furniture may be moved about and still be attractive. It may be blended with Elizabethan, Sheraton, Boule, even Louis furniture, and produce an adequate result. It seems to be the current misfortune of modernistic interior decoration that it does not live well with the other styles and its rightness is so intellectually accurate that moving the elements about usually utterly destroys the effect.

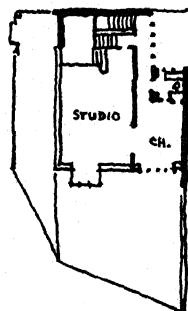
Thus we come fairly to the question as to whether the



GROUND



FIRST



SECOND

FIG. 145. HOUSE IN PARIS

modernistic style is not intellectually too perfect. A home in the last analysis and in the light of present ideas should be a comfortable place where one may do with freedom what he cannot do elsewhere. If nothing can be left around, if a theoretically fine arrangement of spaces does not produce a result comfortable by present standards, the mind has gone ahead of the soul and permanence may not be achieved. Practically, too, the intellectual theory may have been carried too far. Terrace living is splendid, but northern climates have more months of bad weather unsuitable for outdoor life than of good. A vast expanse of window dictates a cold room when the world is embraced in a northeast blizzard. Regions of heavy snowfall are not good regions for flat roofs. Concrete offers fine masses but often looks better in pictures than in reality, due to its discoloration. If the intellectual idea reconciles itself with the practical to a greater extent than it has yet done, we may live to see the modernistic style the epitome of contemporary ideas of living. At present it is perfectly clear that the modernistic house is eyed askance by the general public and is truly appreciated only by the various classes of the intelligentsia. Inasmuch as the proponents of the style are often impatient of criticism and too vociferous, the movement, like many others of vitality, is suffering at the moment from the excesses of its advocates.

We might stop here and allow the illustrations to speak for themselves but it will perhaps be helpful briefly to point out the differences of the various national contributions, recognizing that no one house may be regarded as completely and thoroughly typical of the national development.

Fig. 145 illustrates a house designed by André Lurçat and built in the Parc Montsouris in Paris. It is not the best French modernistic house but it is much more typical of the French development than the best would be. The French are a logical people and the plan is logical and workable. The French are also bound by tradition and the house suffers from the Paris

suburban tradition in which all houses are high and narrow. The villas of St. Cloud have not been forgotten in this example. To be noted are the absence of windows on the street, the large

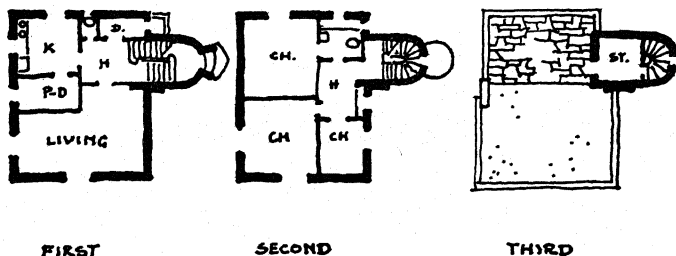
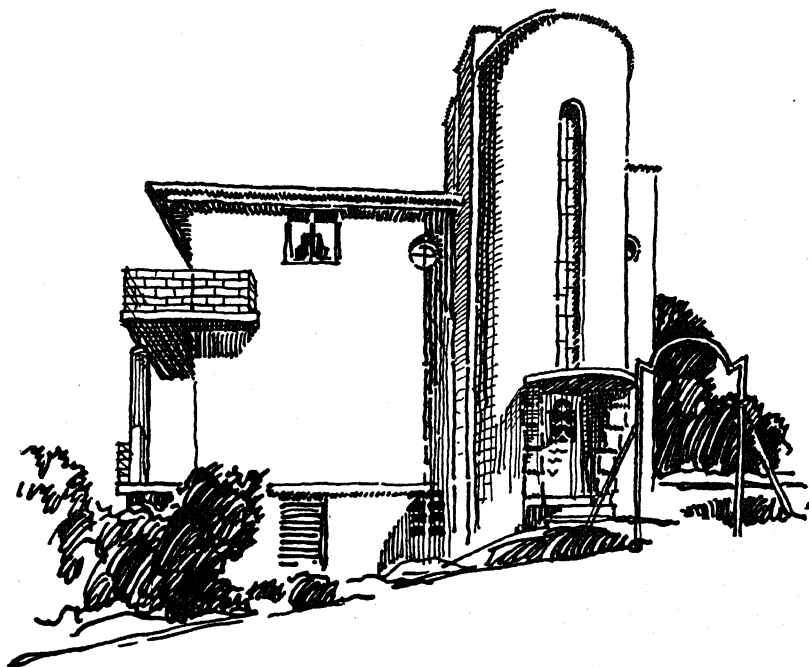
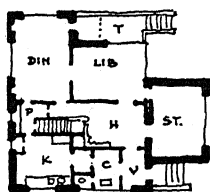
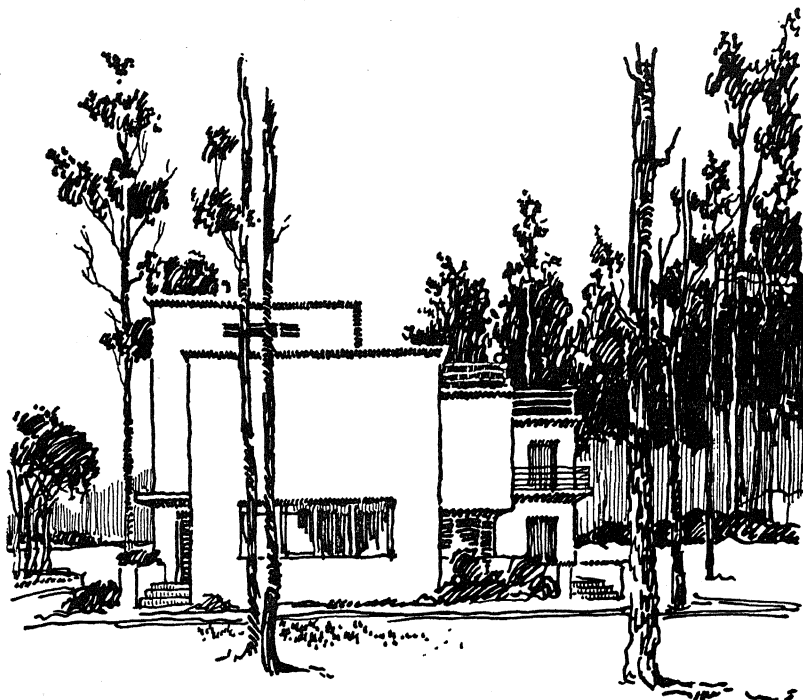


FIG. 146. VILLA BERETVÁS

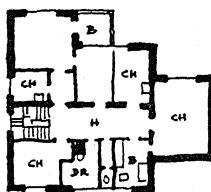
amount of opening on the garden side, the terrace roof. The extraordinary canopy seems to be a freak but is of a type often encountered in the French examples.

The Villa Beretvás in Budapest, designed by Arkay Ber-

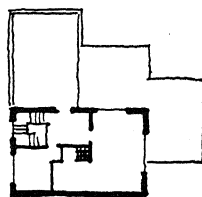
talan of that city (Fig. 146), seems more closely allied to Dutch tradition. The rounded protuberance with its long window is an interesting architectural detail but clearly out of



FIRST



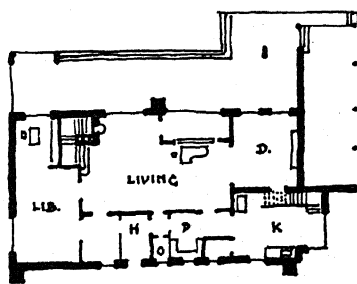
SECOND



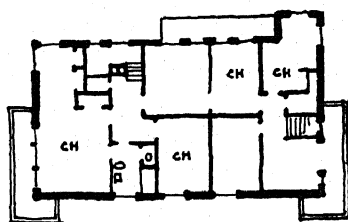
THIRD

FIG. 147. HOUSE IN DAHLEM

keeping with many of the tenets of modernistic intellectualism. It is shown to indicate that the modernistic style is not always esthetically satisfactory. There would seem to be no real reason



GROUND



FIRST

FIG. 148. HOUSE IN BREMEN

for a Hungarian to depart from his traditional style in favor of such a house. The heavy projection of the roof is characteristic of Hungary where the influence of Frank Lloyd Wright has long lingered. Balconies are provided but are not worked into the composition with the felicity of the German examples.

When we come to Germany we arrive at the center of the modernistic movement. Germany has shown tremendous creative energy in all the arts throughout the postwar years and the design of houses affords no exception. The house in Dahlem (Fig. 147), designed by the very able Bruno Ahrends of Berlin, is an excellent example of restrained modernism. The solid masses dominate the openings in this example but the fenestration is concentrated so that ample light is provided. Although a house is itself so small as to make the treatment of various-sized masses extremely difficult, Ahrends has achieved this result with a scale and force equaled only by the setback architecture of large buildings. The terraces are integral with the design but not so conspicuous as to appear ridiculous during winter months. Altogether, this house is a very fine example of modernistic design in which the plan is perhaps not so far advanced as in most examples.

Another man who may properly be called a genius in modernistic house design is Professor E. Fahrenkamp of Düsseldorf-Stockum. His design for a house in Bremen (Fig. 148) is by any standard beautiful. The plan shows large open spaces with a liberal ground-floor terrace on the garden side. The first-story walls of this house are of brick, the second of stucco, and the tile coping affords an interesting horizontal line at once of color and of moving form. The street side, which is shown, offers little fenestration with the solids dominating. The garden side is largely windows. The side balconies, although possibly usable, are principally decorative and the horizontal lines of their stern rails is most effective. On the rear a larger balcony covers the ground-floor terrace and affords a second and integral outdoor area.

The house in Altona-Othmarschen by Karl Schneider of

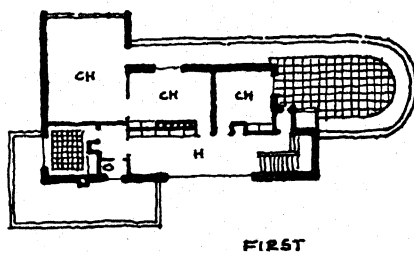
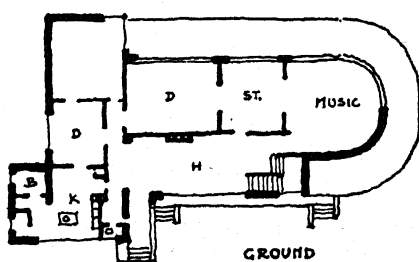


FIG. 149. HOUSE IN ALTONA-OTHMARSCHEN

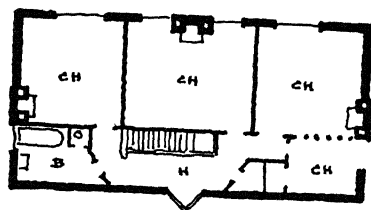
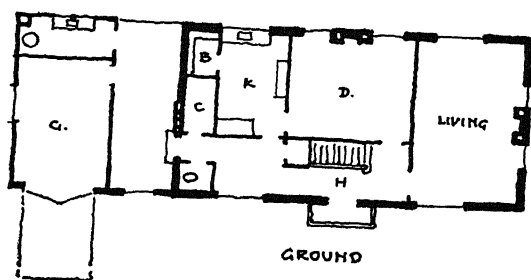
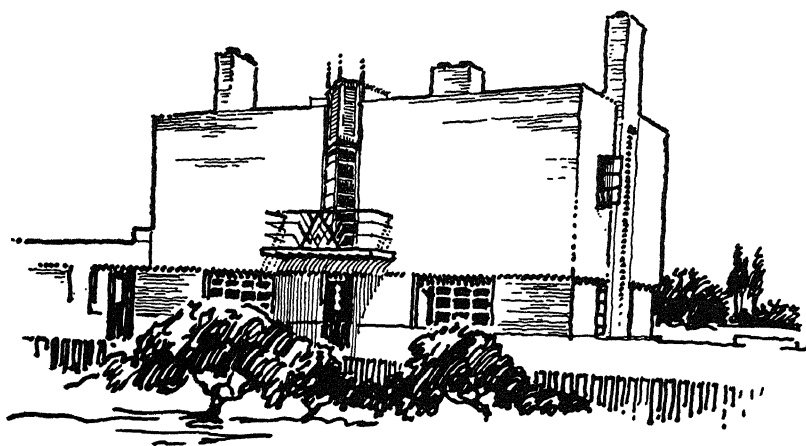


FIG. 150. HOUSE IN SILVER END VILLAGE

Hamburg (Fig. 149) is less successful. It is given to illustrate the ship influence which often occurs in the modernistic style together with what seems to be an excessive use of fenestration and a large covered terrace much resembling the deck of a liner.

Although the English architects who have successfully embraced modernism are relatively few, Thomas S. Tait of London is one of the real masters of the style. The house in Silver End Village, Braintree (Fig. 150), shows some kinship to the

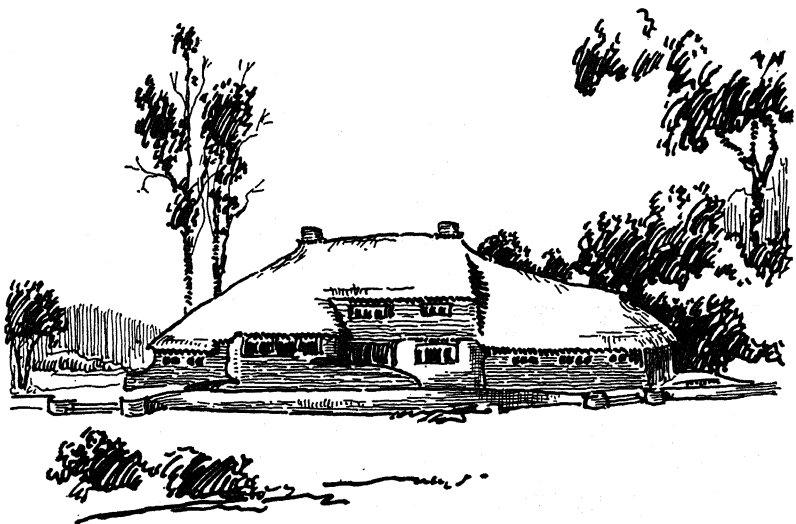


FIG. 151. COUNTRY HOUSE

Ahrends house. There is the same knowing treatment of various-sized masses, including the chimneys. There is the same restrained use of fenestration on the front. Added to this, there is the central window motif and modernistic railing which is effective, if slightly theatrical. The plan is conventional. The rear of the house offers windows and terraces.

Along entirely different lines but representing a perfectly characteristic Dutch development we may note the country house designed by P. Vorkink and Jac. Ph. Wormser (Fig. 151). Dutch town houses are much like those of other nations with the exceptions above noted. But where other architects make

their modern town houses much like the country houses, the Dutch have definitely departed from the tradition. This building suggests the Einstein Memorial of Mendelssohn, the theories of Norman Bel-Geddes, streamlining. But it also suggests the farm and the country and is an interesting and fascinating creation settled in a still water of the modernistic stream.

With American modernistic houses we need have at the moment little concern. They add nothing to the picture conveyed

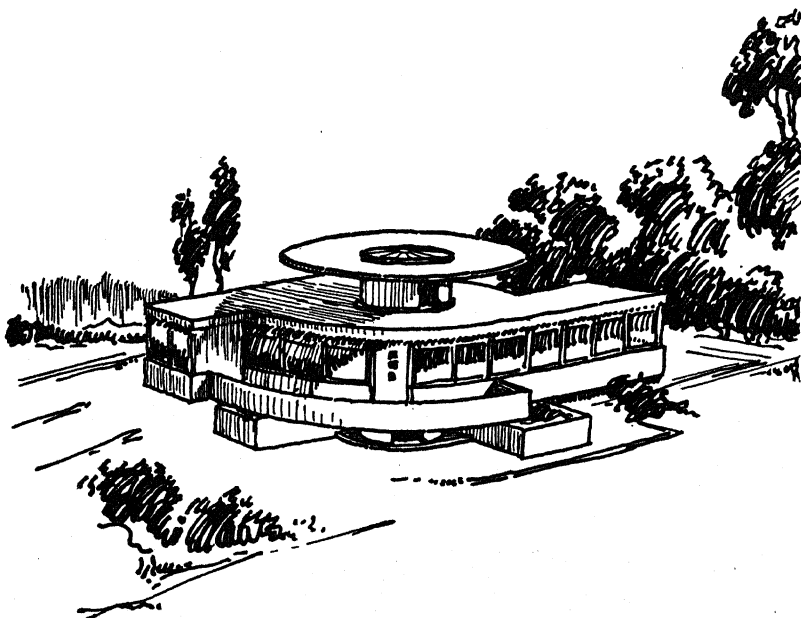


FIG. 152. "AN APPROACH TO INDUSTRIAL HOUSING"

by the analysis of the European examples.¹ However, there have been structural theories proposed in this country which are astoundingly radical. The Buckminster Fuller Dymaxion house and the Irving Bowman house (Fig. 152) designated as "An Approach to Industrial Housing" are cases in point. In each case a new structural conception has led to a radically new conception of exterior form logically postulated on the structural

¹ One such house is shown in Fig. 139, p. 426.

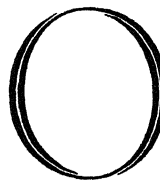
theory.² Less even than the European houses do these examples appear at all typical of contemporary conditions. What they may be in the future it is not in our province to predict.

We live in a stimulating age. Our civilization is combating forces the full strength of which it no longer underestimates. It seems to be characteristic at least of Western history that, in times of unrest and stress, the arts take new life, undergo change, and expand into new forms. If history is cyclical, it is probable that the period since the War is one of the great critical times of Western civilization. If we survive, we shall probably see new forms of all art, great forms. We shall probably revise habits of living that have become ingrained through a long period relatively free from stress. The homes we have just described may be the beginning of such a revision. Or they may be passing whims of a vagrant intellectualism. Happy the man who may live to see.

² These structural theories are described in Volume III of this work.

Conclusion

Conclusion

OUR review of the history of shelter has shown us one aspect of the evolution of man, but an aspect profoundly important. The influences which first led primitive man to desire something better than nature provided and the power he had to attain it are the mysterious factors that differentiate man from other animals. These factors, however indefinable, are clearly mental and spiritual in origin, and through their interaction and transmission by tradition they have created the social influences surrounding our historical evolution. Through them man grew in knowledge and accomplishment.

Primeval man was probably no further developed mentally than the higher animals of his time, or certainly no more able to observe, remember, profit by experience, or pass the result on to others than an ape or dog or mouse. He was an animal dominated by his emotions and instincts, with little or no power of reasoning. Hunger and fear were his masters. He sought food for the former and shelter in part because of the latter. But slowly, as his mind improved, he more and more profited by experience — by the good and the bad that befell him — and his ability to reason about it and convey his thoughts to others. With growth of reason growth of knowledge resulted, and with growth of knowledge came improvement in his technique to gratify his wants. With improvement in technique came better conditions, more and better food, better shelter, and with less labor and less danger. Somewhere in this age-long period of development came the birth of the arts and the

sciences. The point is that such desires and recognitions are among the spiritual motives, not only lifting man above the lower animals, but joining soul with soul. It is in the home, the very cradle and source of social life, that spiritual things are born, and spiritual things inspire and direct human evolution. Therefore, shelter, seen as a human home, develops and evolves with the life of man.

As growth in knowledge and improvement in technique continued, very gradually he learned to supplement his own physical efforts with weapons and with tools. The home became the storehouse for them as well as for food. With weapons and with tools, cooperative action or the sharing of the essential work of life originated. The division of labor began, and with it community life. With every gain in technique new wants developed, and with new wants the need for still better technique, better weapons, better tools, and more cooperative action. Along with community life and an increased dependence upon others, man's spirit was aroused and developed. Thus under the counterplay of natural forces, acting within and outside of man, did the home, both as a subjective and objective influence, develop. At first he dwelt in trees and also in caves for uncountable ages. Cave dwellings could be lightly abandoned when the beasts that the cave man hunted moved on. Yet a cave was a home, shelter for young, storage place for food, and at some unknown time (probably not too far back in the ages) with a fire to return to gladly, to keep up with gathered fuel, to use for rude cookery. The family group is discernible at this stage, for generations in this first abode.

Huts are the next step and the hut is with us still, multiform indeed. Built of stones, clay, poles, wattles, sods, grass, it is far more various than birds' nests, but just about as artfully constructed, and as permanent, and as dirty. But it soon has a door and also a hole for the chimney.

Hunting and weapons, tools, cooking, pottery, sewing of skins, knitting, and finally spinning — every one of these arts and skills of primitive man repays the most zealous study. Obvi-

ously they all have a bearing on the development of man's home. Weapons and tools, food and supplies must be kept somewhere, and as the number and variety of possessions increase so does the size of the dwelling, or else it splits like a primary cell into several structures of different purposes. Also these skills react upon the structure of the house. The Indian *tipi*, the black tent of the Bedouin, the tiled roof of the Aryan, the bricks of the Chaldeans, are examples of primitive skill used to construct housing material and shelter. Home activities devolve upon women and children, while the men hunt and fight and later work. Primitive agriculture and herding affect the hut or tent (which seems in evolution to follow the hut) only by supplying extra food to be stored and more materials of one sort or another, such as wool and hides.

A tent shelters a family, and in developed nomadic life the complex family or tribe spread their tents together and together move away. Huts are grouped in villages. Nomads seek safety in flight, but villagers erect stockades and earthworks, or build their huts on piles in lakes for defense. Group life is subject to the danger of war by another group. Group defense against groups of other men arises.

Meantime, mental power, imitation, habits, magic, authority, group action, continue to develop, first in crude forms, and then evolving into what we recognize as customs, morals, religion, tradition, tribal organization, government, art, the sciences, technology. And all this human activity develops under the interplay of natural forces acting upon the natural material world surrounding and including man. It is infinitely complex and it all affects the home materially and spiritually. The home itself, acting subjectively, in turn affects the activities of man. In the family ideas are shared, habits are formed, traditions are passed on, skill is imparted. The character of a dwelling makes its own impression upon the lives within it. Individual life affects group life, and the group stimulates, restrains, moulds the individual.

Community life was the source of political institutions, grow-

ing through the "old man" family, the cave group, the nomad tribe, the Hindu farming village, the early Roman clan, the Saxon settlement in the forests by the Elbe. Thus chieftains, councils, warfare, rude justice, and tribal customs arose and were later exalted into laws. Great chieftains became kings — in Homer the two are synonymous. Warfare develops the sentiment of the group, the tribe, the nation. We find ourselves in the dawn of recorded history, for legend is the record of what the group admires. The group restrains the individual now, and customs are binding, differentiating one people from another.

In ancient history we begin with villages, go on with palaces, and end with ruins. In the history of the countries of Europe we might say we begin with villages, go on with castles, and continue with skyscrapers and motor cars. But the house is a constant. The Saxon hall, the Norman castle, the Tudor manor, the Georgian mansion protected the leaders and the rich. The wattled hut, the thatched cottage, the half-timbered farmhouse sheltered the tiller of the soil — and the artisan too, until he was engulfed by the factory and the tenement house. Down through the centuries cities have existed and within recorded history comparatively few have ever died. The city, then, is another constant.

In India and China the sense of continuous group life, in village and in city, is overpoweringly strong. Time in the Orient seems a different thing and generations pass as years or seasons. The cities, except where railroads and other European influences appear, are as they were in the beginning. Our comprehension of Egyptian, Syrian, and Greek life grows by comparison with the Orient. This continuity of the city, the great group home, seems to be the storehouse and means of transportation through which our present-day civilization has so largely in recent times evolved. One of the most fascinating studies of the historian is to observe what survived the fall of imperial Rome, what fresh growth shortly sprouted from the old roots,

long before the Renaissance definitely and consciously rediscovered the so-called classics. Roman roads, the Latin tongue, buildings, customs, crafts, maintained the profound influence of the Roman genius; and religion and the church transmitted something of Greek thought and Roman order to the medieval mind. Obviously these intellectual contacts were made in the cities of Italy, France, Spain, and Britain, the seats of government, civic and ecclesiastical, the strongholds of tradition because a city is a congeries of homes.

But the city as we see it now is immensely different from the city of old. Though Marco Polo might today feel at home in some of the cities of inland China through which he passed, he might not even recognize as a city at all those urban portions of this country so thickly settled by his own countrymen. The Industrial Revolution, the machine age, mechanical civilization, the enormous advances of recent years in scientific knowledge and technology, have wrought great changes in city life, extending indeed far into the country. The extreme mechanization of a city apartment, the complete dependence of its inhabitants on public services of every kind, need not be elaborated. The dwelling itself yields us data for history, sociology, psychology, science, economics, being in part the developer and in part the result. No better example of the intricate maze of forces involved in the evolution of man and his home could be found than the apartment houses in every big modern city.

Yet even in these infinite intricacies of human development there are certain paths along which inevitably we move. The laws of life are endlessly urging and leading man's finite mind to explore the infinite possibilities of the universe. His knowledge increases continuously and every step opens up new vistas of better technique in supplying old wants. Every step creates new wants and new possibilities of easier, healthier, happier life. The forces of nature are continuously more and more harnessed to do the work of man, to make his food more adequate and better, his home environment healthier and more inspiring, his

comforts and his recreations, his leisure time, and opportunity for self-improvement greater. But each further step is made possible only if and because the previous one has improved man's technique, has saved his time, has led to a further subdivision and redistribution of the increasingly complex work of the social organism. It seems to be more than a surmise that division of labor is a principle obtaining throughout all life, from the most primary cellular community up to modern civilization. Though this repetition of statement seems redundant, it indicates this endlessly repetitive phenomenon in our evolution, a continuous, increasingly intricate process. While we see the result as an increasingly complex social organism, its ultimate end is bound to be unity and equality of opportunity in the satisfaction of man's basic needs.

And in this ever-present, ever-recurring process there is a subsidiary phenomenon, evidences of which the reader has undoubtedly observed. The technique of one action or of one art will be slower than others in taking advantage of increased knowledge. An individual or a group, a process or an industry, a social custom or a legal statute will fall behind in the evolutionary progress of the mass. A particle of water is held back for a time in the whirlpool of a mountain stream. At last something happens, and the whirlpool releases the circling drop and it rushes madly on to catch and perhaps to flow by those but recently far ahead. A law becomes so obsolete it is unenforceable and it is harmonized with later statutes. A custom is seen to have no reason or place in the new thought and life of the period and is dropped in favor of something more fitting. A man has used tools which others long since discarded for those more efficient. An industry wakes up and jumps into the vanguard of its fellows with technique even better than that which put them there. This ever-present, ever-recurring process we shall call rationalization — the making reasonable, the harmonizing with respect to the rest.

The major steps in this evolutionary process may be pointed out. The earliest steps in knowledge and technique were prob-

ably made through the urge of the appetite and the search for food; and in defense against natural foes weapons were evolved. Hunting, warfare, organized group life evolved. The control of fire improved the home. Time was saved. Cooperative action increased. In the further pursuit of food, agriculture and the trades evolved. The arts expanded through increasing improvement and use of tools. Trade and commerce began; money as a medium of exchange amplified the possibilities with benefits to society and social complexities. Numerals and mathematics stimulated the increasing store of scientific knowledge with resulting interplay upon commerce and the arts. Craft guilds developed. The art of printing greatly facilitated the storing of knowledge. The laws of gravitation came to be understood. And perhaps the greatest step of all occurred, purely from the viewpoint of the present day, when the forces of nature were so definitely harnessed through the development of science, pure and applied, during the period of the Industrial Revolution. Previously the harnessing had been mostly for the use of the individual; now it was greatly amplified for the group.

It is the interplay of all these complex factors affecting the home which is our chief concern. There are those who look upon the complexities of modern life as obnoxious, unnecessary, and undesirable. There are those who think the increase in scientific knowledge and the obligations of such knowledge have not been for the good of society. They look upon the old, idyllic, pastoral life as being better suited to our physical well-being and spiritual health. But to those who study the course of man's life through the ages it becomes evident that increasing culture must result in increasing social complexity.

The use of man's accumulating knowledge must necessarily more and more be devoted to the development and betterment of human society as a whole. What that development may be and what such betterment may be, may not conform to any one man's ideas; but that they will be directed through the medium of increasing cooperative action, nursed and cradled in the home

(however complex and different from today the home of the future may become) seems fully to be established.

We have seen what housing was to primitive man. We have seen something of its evolution and its place in man's evolution and in the growth of what we call civilization. What is the home of today? What is its place in our social, economic, political life? Does it fulfill present needs? What are its shortcomings and disabilities? In what ways or in what particulars are improvements needed to establish a balance with other features of our social organism? And, lastly, how may such balance be established?

Although the home shelters us in the most intimate and influential relationships of our lives — relationships essential to our physical, mental, and spiritual well-being and growth — the city and suburban dweller of today, especially in the United States and countries of a comparable civilization, knows but little about the structure of his house, and the man of the country and the still primitive regions is perhaps too intimately concerned with its physical character.

With increasing force and extent in recent years, particularly in this country and those of Western Europe, we see new interest in the dwelling house and in all its phases — social, economic, political, and esthetic. Whereas the housing problem in primitive countries of small commercial or industrial development remains much as it has been for centuries, in countries of more advanced economic status, new conditions and new relations have been developing as between the need and provision for housing and other human needs and requirements. There is clearly something out of balance in such countries, and in a following volume a study will be made of the factors involved in this important problem, in the hope of clearly seeing the means to solution. Having traced the complicated evolution of the home, we shall find the next step easier. We are now prepared to analyze the present condition of housing, and then, it may be, to consider its future.

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Authors' note: The books in this bibliography have been arranged in general along the lines of the text subdivisions but the latter have not been slavishly followed. The aim has been to present a bibliography which will be readily useful rather than to attempt to key it too closely to the text. Comments have been supplied with respect to certain books which either have proved to be of unusual value or have been surprisingly disappointing. Failure to comment on other books does not indicate that they were not of use but that they were not among the most striking of those studied.

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